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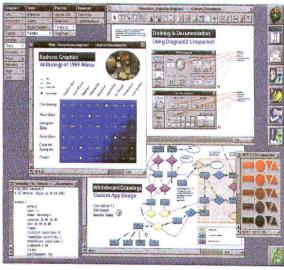
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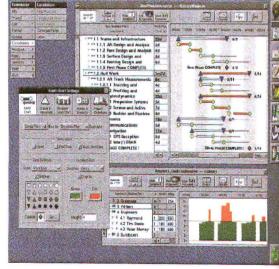
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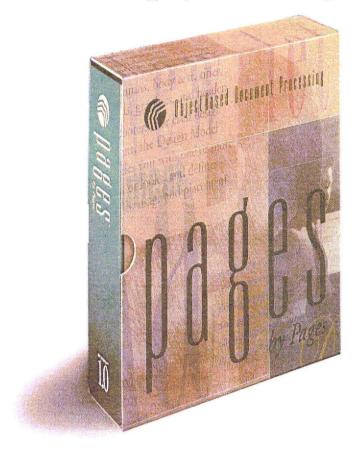
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ost months, we at NeXTWORLD find ourselves caught up in the issue of the moment - the latest twist or turn in the longrunning soap opera we call the NeXT market. These monthly blips on the screen provide a nearly real-time reading of the flow of events.

In our role as the chronicler of the evolving NeXT world, we periodically take a moment to present a stop-action snapshot of the market. This is when we dip our measuring rods into the available data to provide benchmarks for evaluating the progress of various market segments.

We did this last in our Summer 1992 issue with NeXTWORLD's first listing of top NEXTSTEP customer sites. This time, we've broken out the top 50 sites by industry grouping, to give a better idea of the breadth of the NeXT market. Research on the list was done entirely in-house by Assistant Editor Paul Curthoys, with direction from Managing Editor Eliot Bergson. Because customer lists are so proprietary, we got very little help from NeXT itself or from any of the major thirdparty vendors. Therefore, the list is composed

of publicly known sites for which we were able to acquire verifiable data.

For our second market benchmark in this issue, we update another NeXTWORLD tradition with the return of Dock Soup, a comprehensive index of rated NEXTSTEP products drawn from the last 18 months of NeXTWORLD product reviews. Ever since we dropped Dock Soup as a monthly feature, we have heard regular requests from readers to bring it back. For those of you who have had to search through back issues to find a dimly remembered review, it will serve as a handy reference guide to shipping NEXTSTEP products. The list was compiled by Associate Designer Beth Kamoroff, with direction from Senior Reviews Editor Dan Lavin.

In our previous market snapshot, we included a customer survey covering attitudes and buying trends. While we plan such a research project this year, it was not ready for inclusion in this issue.

Customers and third-party products are the two of the most reliable measures of the strength of this market. Unfortunately, because of the lag time involved in both software development and customer-purchase cycles, both measures are trailing indicators. Recent activity that may be very promising is not reflected in the listings. Thus, we don't see many of NeXT's newest customer sites, where today's small prototype project may turn into

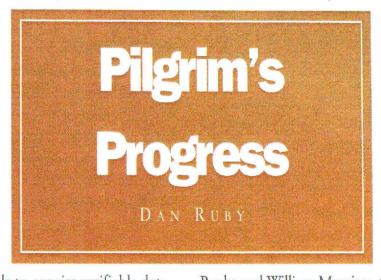
tomorrow's enterprisewide deployment. Nor does Dock Soup reveal the many interesting software products that have been announced but are not yet shipping.

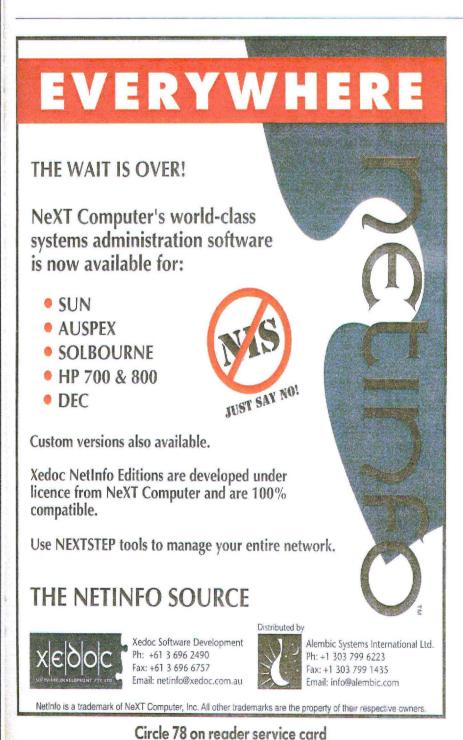
Looking at the lists, I am struck once again by the sense of transition. A lot of monthly blips have passed since our last survey, including the cataclysm that hit almost exactly one year ago. Therefore, we find missing from the lists many prominent names from NEXTSTEP's past. On the other hand, we find here the old standbys - the Swiss

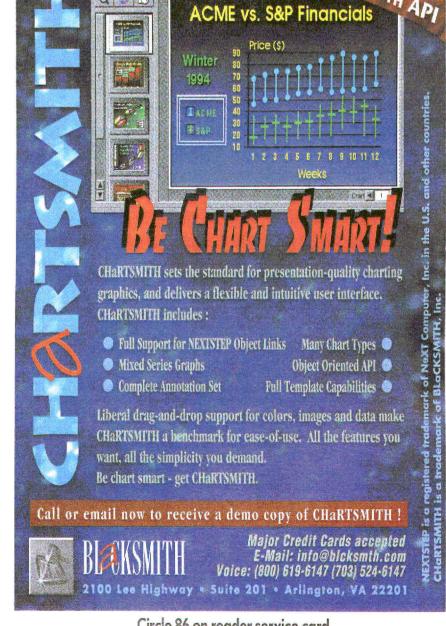
Banks and William Morrises, the HSDs and Insignias – that have weathered the storm and emerged ready for the new challenge. Finally, lead time or not, we see the beginnings of a new roster of players who are signing up for the challenge of the object future.

This year, NeXT will ship its foundation product on two new platforms and further define its leadership position in the emerging object wars. Next year, when we once again get out our measuring rods, we'll see how much impact these developments have had on the growth of the NeXT market.

DAN RUBY is NeXTWORLD's editor in chief.







Relations support

I've just read Simson Garfinkel's comments in *NeXTWORLD* ("How NeXT Plays Favorites," January 1994), and I disagree with the general sense of the article.

The best book about marketing for software developers that I know is *The Macintosh Way* by Guy Kawasaki, and I've compared it to NeXT-developer strategies over the last five years. I can only say that Kawasaki was exactly right. He probably would have chosen to support Lighthouse Design, RightBrain, Appsoft, Pages, etc., a long time ago, rather than spending time and money on WordPerfect.

If I remember it correctly, one of the main lessons of the book was: Every platform needs to build its own heroes. And only very few companies are successful with cross-platform applications.

The PC market created its own software heroes, which became giant companies: Borland, Microsoft, Lotus, Ashton-Tate, WordPerfect, etc. None of them has been very successful on other platforms (except Microsoft on Macintosh). Apple failed with Ashton-Tate, Borland, and Lotus, though it tried very hard to get them onto the Mac. In the end, they succeeded with newcomers like Aldus, Adobe, Quark, and Symantec.

NeXT made the same experience. (Or should I say mistake?) It will not succeed with Lotus, WordPerfect, or Frame. And not with Aldus and Adobe either. The NeXT heroes will be Lighthouse, Pages, Athena, OTI, etc.

The developer meeting in San Jose in November showed this clearly. It was a meeting of NEXTSTEP-only developers. And the message of the meeting was not that it was restricted to 40 companies, but that NeXT should have focused on these companies a long time ago.

NeXT should extend its developer marketing to the VAR-type developers now, because they have their own vertical markets. I think the Object Channel is maybe a good approach to this. The "support your own heroes" strategy is not only true for software developers. The same thing holds for distribution.

WILFRIED BEECK d'ART Software GmbH Hamburg, Germany

Arrows of outrageous fortune

If, as John Perry Barlow pointed out ("Frontier Justice," *NeXTWORLD*, January 1994), pioneers get the arrows, then I've got a back full.

I've wanted a NeXT machine since I saw a picture of the first Cube, and I spent the better part of a year trying to convince my boss to let me try a NeXT machine. Finally, when it was announced that NEXTSTEP for Intel would be available at the '93 NeXTWORLD Expo, he relented.

In April, I bought a '486 from Dell that was configured according to what NeXT and Dell had published. In May, I arrived at the Expo and was amazed by the small number of products that were actually shipping for NEXTSTEP

for Intel. Several software vendors told me to call them after the Expo, and they would give me a "special" price on a beta version. This was in stark contrast to everything that I'd read about NEXT-STEP – it was supposed to be "almost trivial" to port from black hardware to Intel machines.

And Dell, my hardware vendor, had several salesmen running around who couldn't answer a single question – even simple ones. I didn't think that my computer would run NEXTSTEP, even

though I did everything that Dell and NeXT said to do.

When I returned home from the Expo, NEXTSTEP refused to load. Several phone calls to NeXT and Dell proved fruitless. Finally, out of desperation, I removed my video card and have been living with 8-bit black-and-white since.

On the software side, I called Pages Software as recently as December 23 to order Pages. The person I talked to told me, "Pages is not shipping, and I have no idea when it will ship." How can I or anyone else talk our bosses into switching platforms when we can't even get a decent word-processing package for NeXT?

If I were Steve Jobs, I'd give soft-

ware houses free copies of NEXTSTEP and the developer tools. I'd also send an engineer to see they get everything installed. Then I'd offer free developer training. Borland would probably be a good place to start: Kahn must hate Gates as much as Jobs does.

BARRY VINSON New Iberia, Louisiana

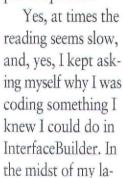
Learning curve

I'm glad Alex Duong Nghiem took the time to set the record straight. NeXT-STEP Programming: Concepts and Applications is very different from NeXTSTEP Programming Step One: Object-Oriented Applications. They both deserve space in my library.

Being a nonprogrammer that is

NEXTSTEP programming, the Garfinkel and Mahoney book moved much too fast too soon. Sure, I could follow along and build all of the sample apps, but I didn't understand why I was doing what I was doing. About halfway through, I put the book down and picked up Alex's.

determined to learn



menting, I would receive a flash of insight that would help me understand what Simson and Michael were doing or what all the fuss is over Interface-Builder.

SERVICE

I'm now working my way through NeXTSTEP Programming Step One: Object-Oriented Applications again. This time the examples make more sense, and I can more easily keep up with the fast pace. The OOA and OOD background Alex provided has made all the difference.

MICHAEL A. DUKE Big Flats, New York

Mentoring philosophy

I want to clarify a statement in the December cover story ("Phase Changes," *NeXTWORLD*, December 1993) describing how customers

learn to develop NEXTSTEP applications. In the "Phase II: Development" section of the piece, I am quoted as saying, "If everyone got rid of their first application, they'd be better programmers." What I was describing was a development philosophy: That by not tying yourself too tightly to an initial implementation, you can feel free to search for better solutions.

This is the purpose of NeXT's Mentorship program. We help developers who are new to NEXTSTEP explore design and implementation issues and prototype ideas in the safety of the classroom, without corporate pressure. We help developers complete the first cycle of a small part of their corporate project, so that they can learn the philosophy, described above, as well as the technology.

SCOTT WEINER
NeXT Computer
Redwood City, California

Power over interface

With reference to the review "Stereo Choices" (NeXTWORLD, January 1994), Lee Sherman says that "solid-Thinking is perhaps the most powerful modeler available for NEXTSTEP, but even intermediate users may find it daunting." For many of our users, solidThinking MODELER was the first 3-D modeler and renderer they ever used. It's true that our program has a lot of commands, but you are not required to use all of them to obtain high-quality photorealistic images.

We know that our interface can be improved, and very soon we will introduce solidThinking Release 2 to fill this gap (iconified interface, drag and drop, etc.), but we don't believe the interface should become the first parameter to judge an application. We want to satisfy the production needs before those of the eyes.

ALEX MAZZARDO GESTEL Italia Venice, Italy

For the record

In the January 1994 "New in Shrinkwrap," the phone number for Doberman Systems was incorrect. The correct number is 801/944-4329.

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Finding a Systems Integrator

SERVICES AND SOFTWARE

WHEN DESIGNING AND BUILDING A COMPLEX INFORMATION SYSTEM UNDER NEXTSTEP, you can either plan and run the job yourself, using a combination of in-house programmers and outside consultants, or hire a systems integrator (SI) to assume responsibility for the whole project.

But if you do decide to go with a systems integrator, proceed with caution: The choice of an SI will probably be the single most important decision you'll make in your NEXTSTEP strategy - as well as one of the most expensive.

"The cost of going to NEXTSTEP is not the \$795 for the software, or even \$2495," says Roger Coates, coordinator of technical management for PanCanadian Petroleum of Calgary, Alberta. "The real cost of going to NEXTSTEP is the cost of skills."

Contracts with systems integrators vary, but under the typical agreement, an SI commits to the delivery of a specified level of system functionality, by a specified date, for a specified price. Other elements of training and support are often part of the overall contract as well.

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SINGLE SOURCE SYSTEMS, Indianapolis

All Object Channel firms provide services regionally, nationally, and internationally.

You pay SIs not only for their experience and expertise but to assume the risk that the job will come in successfully and on time. It's up to the SI to find and manage all of the systems-development and programming talent.

So how do you choose a systems integrator? "The most important thing is that the sys-

tems integrator has a base of experience in the specific kinds of projects you want done," says Mark Potenzone, NeXT's East Coast Object

Channel representative. NeXT recently assembled the Object Channel to identify and aid systems integrators working in the NEXTSTEP environment through training, joint sales calls, and other avenues (see charts).

In a perfect world, you would always be able to find a systems integrator who has experience in your industry. But in real life, it may still be necessary to use a systems integrator who has experience in your field but is relatively new to NEXTSTEP programming. Customers caution that the people who will work on your project should possess strong object-oriented programming experience.

"If you can find an integrator who has done some Smalltalk, C, and C++ code, then you can get some pretty good work out of them in NEXTSTEP," says Ingvar Petursson, vice-president and chief information officer at McCaw Cellular. "The NEXTSTEP world is pretty easy to pick up."

The more time you spend defining your needs and the project as a whole, the better off you will be - and that includes writing a clear, complete, and precise project outline. The better you define your goals, the more likely an SI will be able to make an accurate bid with a complete solution, according to NeXT's Potenzone.

It's also important to allow for the unexpected. Once you've selected an SI, make sure your contract includes clear procedures for adjusting prices and schedules to accommodate changes. Customers explain that everybody in this business is still learning as they go along - and that includes systems integrators.

OBJECT CHANNEL FIRMS - EAST

ADVANCE 2000, WILLIAMSVILLE,

Advanced Information

SOLUTIONS, BOSTON

THE APEX GROUP, COLUMBIA, MD

B Cubed, Woodbridge, NJ

DIGICON CORPORATION, BETHESDA, MD

DILAN, HICKORY, NC

DUPLIFAX/CANON, BURLINGTON, NJ

INFORMATION MANAGEMENT, ATLANTA

NORTHSTAR, NEW YORK

OFFICENET, IPSWICH, MA

PROXIMA, MCLEAN, VA

RAPID SYSTEM SOLUTIONS.

COLUMBIA, MD

RDR, FAIRFAX, VA

SYNEX, COLUMBIA, MD

C D M M U N 1 T Y Real World/Issues and Answer in NEXTSTEP Implementation

Make sure your SIs are realistic in judging their own capabilities and in estimating what sort of time and effort the project will require, suggests McCaw's Petursson. Then for good measure, he says, expect it to take a little longer.

"The basic sales pitch of the systems integrator is that they've solved every problem ten times before and have already made all the mistakes," says

ALI TECHNOLOGIES, BURNABY,

B.E.S.T. CONSULTING, BELLEVUE,

DCS Systems, Calgary, Alberta

OMNI DEVELOPMENT

CORPORATION, SEATTLE

SYSTEMHOUSE, BOULDER, CO

TRIDENT DATA SYSTEMS, LOS

TRW, REDONDO BEACH, CA

Pan Canadian's Coates. "But the truth of the mat- OBJECT CHANNEL FIRMS - WEST ter is, nobody has done this ten times before with object programming to have made all the mistakes - it's all too new."

Like any other emerging technology, real knowledge in object development and NEXTSTEP programming is scarce and valuable. "That's one of the costs of being on the leading edge," Coates says.

Those in the business of hiring systems integrators have found ample cause for caution. "Many [SI] companies will tell you they do objects,

they do client-server, and so on," says McCaw's Petursson. "But what you find out is they've only scratched the surface of object programming, and they haven't done mission-critical applications either."

Although by no means the only SIs worth looking at, those on NeXT's Object Channel list are probably all good bets, assuming they mesh with your project needs. "The companies in NeXT's Object Channel are all, as Garrison Keillor would say, above average," says Petursson.

In selecting a systems integrator, safety does not necessarily come in numbers. It may be human nature to view the larger SI firms as more secure, but since true NEXTSTEP expertise is still relatively rare, it is just as likely that smaller, specialized SIs, with fewer but more highly skilled developers, will prove to be the superior choice for your job.

Finally, keep in mind that you're not just hiring a systems integrator you're hiring a team of programmers and developers. For this reason, you should insist on knowing the backgrounds and experience of the specific individuals who will be working on your job. If a company wants to load up the project with lots of junior programmers, you may not be getting your money's worth.

"You can't get around the fact that the big guys will be able to manage the risk for you," says Petursson. "But you've got to make sure they don't treat it like another [traditional-system] method - one where they say they can just throw all the people in the world at the project until it's done."

No one SI firm is perfect for every job, and any firm that portrays itself as such should probably be eyed very closely, according to the Information Technology Association of America, an Arlington, Virginia-based trade association of computer software and service companies.

There are a million sorts of agreements you can enter into with a systems integrator. But for the marriage to work out, make sure you and your SI are in exact agreement regarding what is expected, when, and for how much.

by PAUL KARON

Real World is a continuing series that looks at the nuts-and-botts issues of implementing NEXTSTEP solutions in large organizations.

6 NEXTWORLD MARCH 1994

PHOTOGRAPH BY STUART WATSON



JANUARY 1 TO FEBRUARY 1

CONNECTIVITY, COMMUNICATIONS,

AND EMULATION

MINDSHARE 1.0

Groupware for collaboration environment

Pangea Corporation

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TELCOM 1.1

Fat-binary telecommunications app

Zion Software

203/659-4257

DATABASE AND INFORMATION

MANAGEMENT

BAR-A-CODA 2.0D

Redesigned app for bar-code creation

Hot Technologies

617/252-0088

PUBLISHING AND GRAPHICS

GRAPHRIGHT 1.1

Latest version of business graphing

application

Watershed Technologies

508/460-9612

HYPERSENSE PR 9

Upgrade to authoring software for multi-

media documents

Thoughtful Software

303/221-4596

OCR Express! 1.0

Intelligent character-recognition software

Visual Understanding Systems

412/488-3600

Tools and Languages

со-Хізт 3.2

Intel version of X Windows implementa-

tion for NEXTSTEP

Pencom Software

512/343-6666

CRAFTMAN 2.0

Fat-binary upgrade of programming tool

Xanthus International

46/8/635-3000

THE GRAPH OBJECT LIBRARY

Object library for graph layout and data

display

VVI

814/234-9613

OTSTRINGKIT

String-manipulation tool for developers

Objective Technologies

212/227-6767

PERIPHERALS

EXTRAPRINT PR 1

Drivers for Canon and HP laser printers

GS Corporation

415/257-4700

UTILITIES

MISSION CRITICAL SOLITAIRE 1.0

Object-oriented design of the card game

WhiteLight Systems

415/321-2183

SAFETYNET 2.1

Fat-binary upgrade of utility for backing up

files to tape drives

Systemix Software

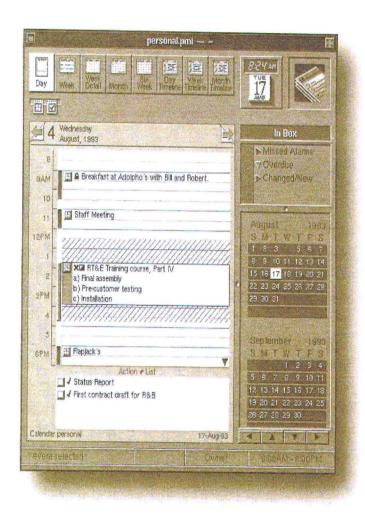
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Circle 73 on reader service card

The Sun Also Rises

COMMENTARY

SUN USERS ARE A HARDY BUNCH. IN THE LAST YEAR ALONE, WE HAVE HAD ONE of our windowing servers (NeWS) declared defunct, our graphical interface (Open Look) abandoned, and our operating system updated to a totally incompatible version (from SunOS to Solaris).

So when I saw that Sun was moving to a totally new GUI, my system administrator and I started swearing in tandem. When all was said and done, I went off to start learning about NEXTSTEP and figure out why Sun hated us so much. I was delighted to find that Sun was actually going to be making our lives easier - eventually.

Our work consists of imaging and modeling problems with radar for

the Army Corps of Engineers, and we had already been looking into object technology as a solution to some of our programming dilemmas. We've been using Geographical Information Systems, image-processing packages, and homegrown models.

A problem with government data is that it comes in a variety of formats and its users access it through different of models, hardware, and software. Every time a new file format is created, translation programs have to be written to coordinate the new data with the old. As researchers started learning more about the power that workstations offered, they would ask questions about how they could make their models work with other models. Looking for solutions has lead us into the realm of "frameworks" and object-oriented design to find answers.

The need to communicate with large data sets and processes over the network was also being addressed. The solution we have been looking forward to is Distributed Objects Everywhere (DOE). But it is only available at beta sites, and I hear its functionality is incomplete. The adoption of NEXTSTEP moves our development capabilities into the distributed-object realm on a hardened platform.

There are methods behind Sun's madness (at least in this case). Sun has been keenly aware of the problems its users are attacking and has backed such organizations as the Open GIS Foundation, which is spearheading the attempt to unify spatial- and temporal-modeling and analysis solutions using object technology. Support and investments into technology by companies like NeXT and IONA (a designer of Object Request Brokers in Ireland) give

Sun users a feeling that all the pain will be worth it when their technology will still be a part of the current trend.

By backing such organizations, Sun has let its users know that it is committed to keeping them at the forefront of technology. Hopefully, that technology will not come at the expense of its users' sanity. A little backward compatibility would be nice.

Sun is reinventing itself for its users, and I think the users will be patient, as many of us realize that the move is for our own good. Like going from the typewriter to the word processor or from the mainframe to the clientserver model, the move to objects is a painful one, with a lot of promised

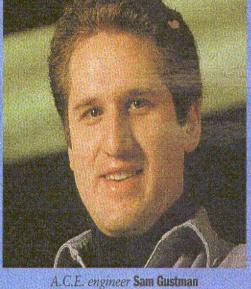
> future benefits. If Sun can reinvent its desktop software, it will be viewed as Digital is now – a company that has the fastest processor running three popular operating systems and excelling in interoperability. People have forgotten the monolithic system problems that Digital had, and people will forget Sun's desktop problems if it's successful with NEXTSTEP.

Sun seems to have learned from its past mistakes by adopting already-established technologies. This time, hopefully, there will be no word swallowing, as there was when Sun announced its move from OpenWindows to Motif. Projects designed on Solaris now will still work after OpenStep is introduced. World peace will be right around the corner.

Moving to a new GUI is nothing new. Sun users are well prepared for object technology, since they have had

to take into account the possibility that even their OS may not be around for long. This situation fosters excellent encapsulation and quick prototyping skills. It's interesting that NEXTSTEP, which has been suffering from hardware-platform consistency, would end up teamed with a company that has equivalent software problems. Maybe we can all finally have a stable platform on which to get our work done.

SAM GUSTMAN is a computer engineer and head of application development for the Geophysical Sciences Branch of the Cold Regions Research and Engineering Lab for the Army Corps of Engineers in Hanover, New Hampshire. His group uses Sun SPARCstations.







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Magazine to say that Parabase is "The only NeXTSTEP software that builds SQL database applications without programming." Plus you can store objects like images, formatted text - even entire documents and files - directly in the database. It's a single, easy to use application. Not a collection of tools, modules and kits. So it all works seamlessly. There's no need to struggle with object oriented programming kits & C when you can get up to



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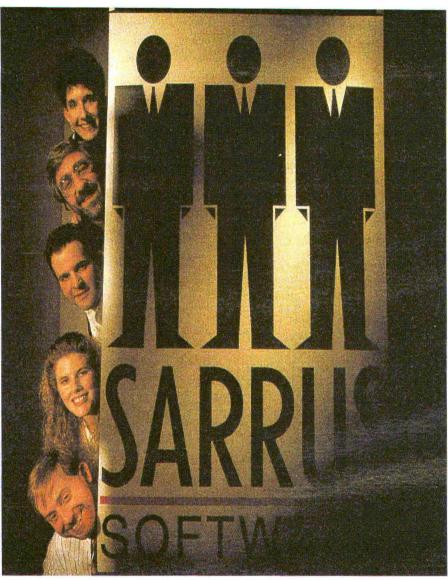
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Work Processing

GROUPWARE DEVELOPER

EMPOWERING THE GROUP WITHOUT SACRIFICING THE INDIVIDUAL IS A LOFTY IDEA THAT SOME MIGHT consider outside the realm of business productivity, but at Sarrus Software, groupware is more than an industry buzzword. "People have asked us to do a spread-sheet or drawing package," says Liz Statmore, vice-president of marketing. "But what makes our products unique is that they focus on work processes."

Since most people's daily work involves a seemingly endless stream of names, dates, phone numbers, addresses, and to-do items, Sarrus decided to offer tools for managing that information as it flows through an organization. But rather than giving users a monolithic application that is expensive to implement and hard to use, Sarrus instead builds its groupware out of discrete building blocks that can be used both together and with other shrinkwrapped or custom apps. "We didn't want to have the kind of rigid rules that you have with something like Lotus Notes," Statmore says.



The group at Sarrus (from top to bottom): Liz Statmore, Allan Atlas, Howard Burrows, Tammy Sorg, and Andy Turk.

Following a stint as a software developer for Visix Software, Andy Turk founded Sarrus in 1991, bringing on Howard Burrows (a veteran programmer who had spent time at HP and Software Publishing) and Statmore (fresh from a stint at NeXT). Sarrus's product line currently includes Pencil Me In, a group scheduling application, and SBook, a personal contact-management application. Both products have enough power and intelligence to be used by an entire organization.

Instead of subscribing to a group calendar that is maintained by a system administrator or other centralized authority, Pencil Me In lets individuals share their calendars in such a way that every calendar can become a group calendar.

"We spent a tremendous amount of time testing the product with our initial corporate customers," says Turk. "The result is a very easy-to-use product that people can pick up without reading a manual. Because it's so easy to use, it can spread quickly throughout an entire organization."

Sarrus acquired the SBook contact manager from Simson Garfinkel and Associates in 1992. From within SBook, you can perform a mail merge with WordPerfect or use the Services menu to dial the phone, print an envelope, or send a fax from within any application. Pencil Me In can export its data in a format that is directly compatible with WordPerfect, Athena Design's Mesa,

corporate communications.



Okay, so it's only March, and you've already broken six of your seven New Year's resolutions. But the last oneyou promised yourself that this year you're going to get noticed—is still salvageable. The problem is, you can't find the right tools on NEXTSTEP. Word processors, like WriteUp, are great for routine office correspondence. But for real impact, well, that's where word processors run out of gas.

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Circle 33 on reader service card

Work Processing

or Stone Design's DataPhile. Sarrus has also developed drag-and-drop links between its two programs.

"One thing you see happen a lot in the Mac and Windows world is the creation of really big, complex applications that attempt to do everything," says Burrows. "We prefer to keep things modular."

Sarrus in January published an API for Pencil Me In that allows the app to be integrated with custom applications on the desktop. "This will give our customers the ability to use either the user interface or the scheduling engine in their custom apps," Burrows says.

"I think that over the next 12 to 18 months you are going to see a lot of developers cooperating on [API development], because we're all realizing that this is one of NEXTSTEP's competitive advantages," says Statmore. "It gives us an advantage over developers that are doing stuff that might be usable under SoftPC. The level of integration that you can get using native applications is far and away superior."

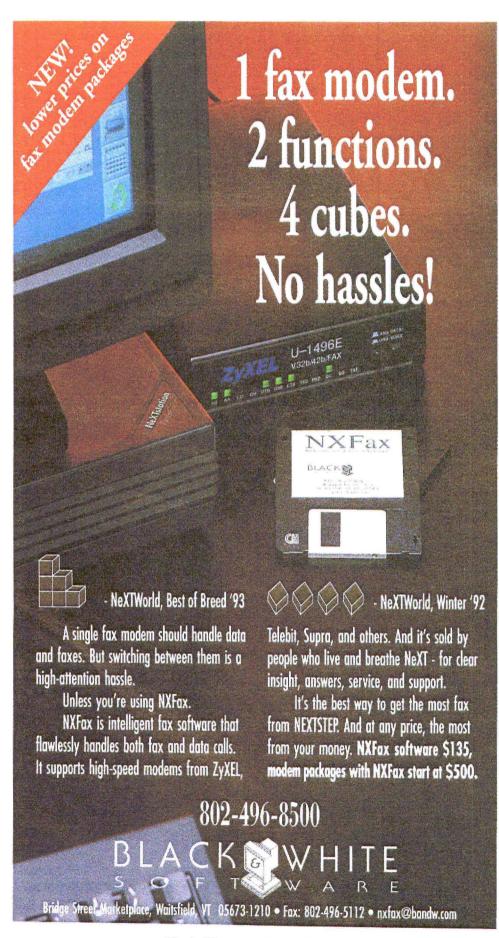
Sarrus has extended its novel programming strategy to its own business model. Instead of relying on venture capital, Turk went right to his potential customers for the company's funding. Swiss Bank Corporation's interest in an early prototype of Pencil Me In allowed him to finish the product and establish the software firm; Sarrus has stuck to a customer-driven model ever since. All of the company's products include a Suggestion panel, and these suggestions often drive product revisions. Pencil Me In's unusual six-week view is one such example, added at the request of an early customer.

"The distinction between custom and shrinkwrapped isn't nearly as important as the distinction between a one-off application and a mass-market one," Turk explains. "If we do enter into an agreement with a large customer, we'll let them give input, but it's very clear that we are still in charge."

Custom apps are important in bringing NEXTSTEP into the enterprise, says Turk, but once it arrives, customers quickly look to the shrinkwrapped market for productivity solutions. With NEXTSTEP, though, customers get an environment in which custom, bundled, and shrinkwrapped apps combine to provide an integrated desktop.

Sarrus has succeeded where other shrinkwrapped developers in the NEXTSTEP market have failed. The key to survival, says Turk, is to provide products that are useful on everyone's desktop. By connecting software modules and people in an organization, Sarrus is fulfilling NEXTSTEP's promise of bringing people together.

by LEE SHERMAN



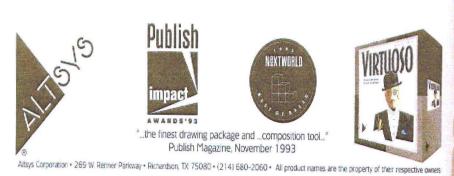
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If the Swiss had a knife like this, they wouldn't need an army.



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E Pluribus Unum

ON THE NET

New Deal politics. Much Net traffic re: the HP-Taligent deal. The usual suspects pounced: Here's proof that HP isn't really serious about NEXT-STEP (or is really cheesed about the Sun-NeXT deal). Others countered that Taligent isn't anywhere near shipping a product, even the OO "development tools" it now plans to publish first in lieu of a full OS. Yet others: HP has a history of building a platform, then licensing as many operating systems as possible to run on it. The doom-and-gloomers would probably be mollified if HP ponied up with some serious cash. One positive spin: Bill Gates ought to be worried (even if Steve did attend his wedding).

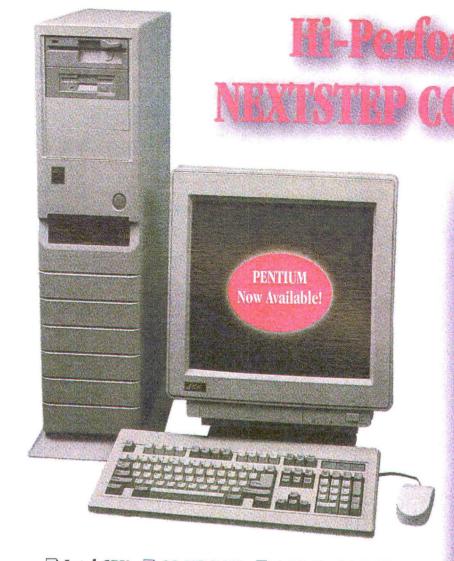
Platforms, platforms everywhere.

While Sun backs up its commitment by showing NEXTSTEP in its booth at ObjectWorld (and running want ads for NS programmers), rumors abounded about new ports. Power-House is said to be polishing up the NRW (on the NeXT campus?), while DEC Alpha AXP certification seems near, according to one poster. But everybody wants to know if NS will run on HP's new Gecko (real name Model 712): starting price about \$4000.

Good press and bad. The only thing worse than being talked about, per Oscar Wilde, is not being talked about. Between the Stross book portraying him as a petulant (but very lucky) child, and Forbes naming him one of the world's toughest bosses, Steve might not agree. This month, Byte and IEEE Spectrum praise NS, while The Red Herring flames Steve for not writing an article for it. The nerve of some people!

Because you asked. "Sic transit gloria mundi" (January 1994) is neither a reference to Ms. Steinem's health nor the motto of the New York City subway system (that would be "Sick transit..."). Literally, it's "Thus passes the glory of the world." There will be a quiz...

by STEVE FRICKE



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Wonder Widget Wholesalers, Inc. has its corporate headquarters and national sales organization in Chicago and 4 factory/distribution centers located in Atlanta, Boston, Phoenix and Seattle.

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Chicago. The MIS department has used Meas to query the corporate database, build graphs, and print reports. Meas'
Object Library Interface (MOLI) made developing this application way through Palettized spreadtheet and graph Objects.

SEATTLE

CHICAGO
BOSTON

PHOENIX

ATLANTA

Atlanta: A salesperson uses Meas to build a quote

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MARCH 1984

NEWS

Metrosoft in January teamed up with HSD to form a strategic partnership. Metrosoft will publish several HSD products, including OCR Servant, HSD Spell, and Power Scan, while HSD will offer consulting services to the San Diego-based developer of MetroTools. "Both companies have been successful on their own and are joining forces to strengthen their positions as leading providers of NEXTSTEP solutions," a spokeswoman said. Metrosoft: 619/ 488-9411; info@metrosoft.com.

HSD is offering a special promotional price of \$19.95 for HSD Spell, a replacement for the NEXTSTEP spell checker that supports 11 languages. Because HSD's existing inventory of the product is available solely on ED disks, only users of Motorola hardware can take advantage of the offer. Users can also choose to upgrade to the Intel version for \$49. HSD Spell has a \$149 suggested retail price, which includes two language dictionaries. Additional languages, including Danish, Dutch, English, Finnish, French, German, Italian, Norwegian, Portuguese, Spanish, and Swedish, can be purchased for \$99 each. HSD: 408/774-1400; sales@hsd. com.

Dolphin Technologies has announced a new release of its Dolphin Kit Class library, with enhancements and new objects. Included in the kit are classes for string manipulation, complex-string parsing and regular-expression handling, encapsulation of files, and extended-error and crash handling. Single-user licenses are available for \$449; site licenses are also available. Dolphin: 310/441-9041; info@dolphin.com.

Objective Technologies in January added to its ObjectWare offerings with OTStringKit, a set of Objective-C classes, protocols, and categories, along with C [CONTINUED ON PAGE 16]

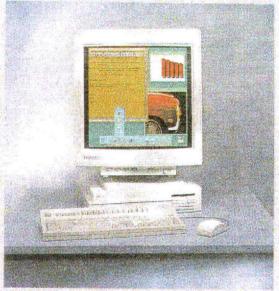
NS takes financial RISC

by LEE SHERMAN

New York – The first public demonstration of NEXT-STEP running on Hewlett-Packard's PA-RISC took place at HP's introduction of its new Model 712 machines in mid-January.

Financial-services customers and developers

packed a Manhattan Marriott ball-room, where they saw well-known NEXTSTEP applications, including Athena Design's Mesa, Anderson Financial's WriteUp and afstrade, and Lighthouse Design's Diagram! and Concurrence, running on an alpha version of NEXTSTEP for PA-RISC. An HP Vectra PC running NEXTSTEP for Intel was networked to a Model 735 workstation that was deployed as a



HP's Model 712 will bring new price/performance to NS.

server running PDO.

"NEXTSTEP on PA-RISC feels like it does on any other machine I've run it on, only faster," said Michael Matlack, president of AFS.

According to Matlack, a prebeta version of the company's forthcoming WriteUp word processor was recompiled in under an hour for PA-RISC, with no changes to the source code. "It just worked," [SEE PA-RISC, PAGE 14]

Jobs: NeXT "racehorse" has legs for long haul

by DAN LAVIN and DAN RUBY

Washington, D.C. – The object horse race is just around the first bend, but NeXT has the legs to stay furlongs in front and finish strong, CEO Steve Jobs said in an address to NeXT's East Coast Developer Conference, which was held here in January.

"We are ahead today, but the race is far from over. By the end of 1996, we project an installed base of one million seats. Microsoft Cairo will be very close behind, and Taligent will be very far behind." Jobs said.

The presentation, which included a financial review and technology demonstrations, opened the three-day conference. Of the more than 500 attendees, many from agencies of the federal government, three-quarters were new or pro-

spective customers who had not attended previous NeXT events, according to Karen Steele, director of marketing communications.

Sun CEO Scott McNealy contributed a canned NEXTIME message of commitment to NEXT-STEP, in which he contrasted Sun's singular support for OpenStep with Hewlett-Packard's strategy of providing numerous object offerings. "We have no insurance policy," McNealy said. "We have made a firm one-company, one-architecture decision, not like Taligent getting a trophy spouse by signing up HP."

In the presentation, Jobs reviewed NeXT's 1993 accomplishments, including revenues of more than \$11 million in the second half and the landmark OpenStep deal with Sun. He wowed the audience with demonstrations of NEXTIME,

PDO for [SEE CONFERENCE, PAGE 15]

NeXT, Sun unveil strategy

by CARA A. CUNNINGHAM

Boston – NeXT and SunSoft used the January ObjectWorld show to trumpet their recent technology agreement as the object strategy for the 1990s and beyond.

Company officials did not offer a demonstration of OpenStep for Solaris but said that details about the product will be released in April at a planned Sun developer conference.

"We want to win in objects," said Jim Green, SunSoft's director of object products. In order to achieve this goal, the company part
[SEE OBJECT WORLD, PAGE 16]

NS for newcomers

by DAN LAVIN

Redwood City – NeXT is seeking to encourage initial purchases of NEXTSTEP through three separate sales and support programs that were announced in January. In addition to an installation- and configuration-support program, the company is offering two pro-

motions that discount the cost of NEXTSTEP.

All three programs are aimed at first-time buyers, attempting to both encourage trial usage of NEXTSTEP within corporations and generate immediate income.

At least one developer criticized this method, saying, "NeXT should not want the kind of customer who is price-sensitive in the first place, though the configuration support is long overdue."

NeXT will now provide thirty days of installation and configuration support to all users who are installing NEXTSTEP on a NeXT-certified system. The support is available through toll-free numbers in the United States and extends for thirty days from the first phone call. This program will continue indefinitely.

The program applies only to installation and configuration, and those processes are considered complete [SEE PRICING, PAGE 15]

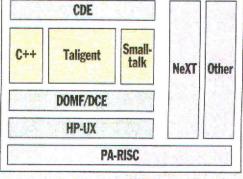
HP covering its object bases

by DAN RUBY

Cupertino, CA – Hewlett-Packard's equity investment in Taligent, announced in January, is part of its strategy to cover all bets in the race for the object market, according to analysts.

Although HP will bring Taligent technology into its HP-UX operating system, the company will continue to support NEXTSTEP as a native object solution, said Tilman Schad, general manager of HP's software systems unit.

"We see two kinds of customers – those who want to jump immediately into a complete object [SEE HP, PAGE 16]



object [SEE HP, PAGE 16] NEXTSTEP will be offered by HP as a native object solution.

CCSI forms new group, targets NS workstations

by DAN LAVIN

Costa Mesa, CA - Canon Computer Systems (CCSI) in January announced the formation of the Advanced Technology Operation (ATO), a new business unit headed by Al Thomason and Bret Gutzka, who recently left Epson's NEXT-STEP group to join Canon (see "Canon nabs Epson execs," NeXT-WORLD Extra, January 1994).

"CCSI sees opportunity where the workstation world collides with the PC world. We're especially looking forward to continuing our close relationships within the NeXT community," said Gutzka, director of sales for ATO.

Thomason will be the group's executive director, reporting directly to CCSI President and CEO Yasuhiro Tsubota, who worked for six months with Steve Jobs at NeXT before founding CCSI.

ATO, headquartered in Hillsboro, Oregon, has a charter to explore opportunities for CCSI within the high-end computing market. Sources speculate that it will produce computer systems specifically optimized for running NEXTSTEP. These systems would be sold to large corporate accounts, such as Fortune 1000 and government sites.

CCSI is a division of Canon that did over \$300 million of business in 1993, its first full sales year. So far, CCSI has aimed at the "small office, home office" market; this venture represents a potential broadening of its product strategy, the company said.

According to CCSI, ATO re-

mains unrelated to Powerhouse, a Canon division staffed by former NeXT hardware employees (see "Canon settlement complete," NeXTWORLD Extra, December 1993).

Indexing Kit bugs bite DataPhile users

by LEE SHERMAN

Albuquerque, NM – Users of Stone Design's DataPhile were among the first to be bitten by bugs in the NEXTSTEP 3.2 Indexing Kit.

An undocumented change to the kit caused the find command to stop working and could, in some

cases, lead to corrupted files. At press time, the bug fix was undergoing quality-assurance testing at

According to Elena Settanni, technical support manager at Stone Design, the problem only affects text fields or views that are over 8KB in size, such as those that include Rich Text or graphics.

"We had some users who elected to go ahead with 3.2 because they figured that most of their users didn't have fancy views," she said. "Everyone else patched back to the 3.1 libraries."

A patch was shipped to registered users in mid-December and immediately posted to the Net on cs.unm.edu.

DataPhile 2.1, which incorporates the fix, will ship as soon as it is ready, according to Stone. The new version also includes a more powerful find language, smart merge, and speed enhancements.

Other products that use the Indexing Kit, including Pangea's MindShare, are also affected by the bugs. After a short delay, Pangea in January shipped a revised version of its software. 🦃

Pangea sends NeXT mail

by LEE SHERMAN

Annandale, VA - Pangea Corporation has announced MindShare Mail, the first commercially available alternative to NeXTmail.

"After seeing MindShare in action, our customers realized we had what it takes to develop the nextgeneration e-mail system they so badly needed," said Peter Park, Pangea's president. "Groupware features like shared mailboxes and central storage have become a critical part of the e-mail picture."

MindShare Mail will offer features, such as prioritization, filtering, encryption, fast searching, and mailbox sharing, that go beyond NeXTmail's more limited features.

Users of MindShare Mail will be

able to exchange messages containing Rich Text, graphics, and sounds with users of NeXTmail on a network or over the Internet. An ASCII option will enable them to send messages to other systems.

MindShare Mail will be available as a stand-alone system or as an add-on to MindShare, the company's recently released groupware. When integrated with MindShare, users can send messages directly to either an individual or a Mind-Share discussion group.

MindShare Mail and MindShare are based on the Pangea Groupware Engine, an object kit containing objects for data formats, database replication, security, and administration. The APIs for the engine will be available in 1994.

Sarrus pencils in developers with API

by LEE SHERMAN

Washington, D.C. -Following the trend toward open applications, Sarrus Software announced the availability of a Pencil Me In API at the East Coast Developer Conference in January.

With the Pencil Me developers can use the

API to integrate group scheduling and calendar functions into their custom applications. The libraries included with the tool kit offer total control over Pencil Me In, including the capability to set calendaraccess levels for Pencil Me In users on a network and create calendars, appointments, and action items.

"Pencil Me In is now the only scheduling application available on any platform to allow that level of integration," said Liz Statmore, vice-president of marketing.

In Toolkit, corporate Custom apps integrate scheduling data with Pencil Me In API.

The William Morris Agency in Beverly Hills, California, is using the Pencil Me In API with DBKit and a Sybase database to develop a custom talent-management system that will provide a common calendar interface for both client bookings and group scheduling within the organization.

"Our agents were already using Pencil Me In for their calendars," said Alex Henry, director of MIS at William Morris. "Why not use something that is familiar?"

WriteUp yet to ship

Springhouse, PA - Anderson Financial Systems missed its selfimposed deadline of December 31 for shipping its WriteUp word

processor. At press time, the product had still not shipped, but the company said it is on track for a March release.

As promised, customers who preordered the software before the deadline will receive a rebate of \$1 per day from December 31 to the day the app ships. AFS said it will also offer an as-vet-undisclosed rebate to academic customers who weren't eligible for the special deal. WriteUp sells for \$199 with academic pricing of \$99.

With WordPerfect out of the running, WriteUp has come under increased scrutiny as customers scramble to fill the void for a NEXT-STEP word processor.

Instead of succumbing to feature-itis, AFS CEO Greg Anderson said, the company is taking the time required to release a product that is as clean as possible.

"We didn't say it was going to be God's word processor in the first iteration," he said. "We're taking the features that we've announced, and we're in the process of making them stable."

Anderson can be reached at 215/653-0911.

Dream comes true for **Quix Computerware**



by ELIOT BERGSON

Lucerne, Switzerland - Quix Computerware ended months of negotiation with Apple in January

and began shipping its Daydream hardware add-on, which enables NEXTSTEP for Motorola users to run Macintosh System 7 and thirdparty applications.

The box, which plugs into the NeXT station DSP port, contains Macintosh LC ROMs.

When the Daydream ROM box is connected and the NeXTstation is rebooted, the Macintosh operating system runs the computer, allowing users access to Mac applications, files, and peripherals.

The product's release was delayed for several months as Apple and Quix negotiated the release (see "Black box or Mac box?" NeXT-WORLD Extra, October 1993).

The initial \$795 price was set to expire at the end of February; other pricing was not determined at press time.

Quix: 201/928-0420, 41/41/34. 88.43; quix@applelink.apple.com. **PA-RISC** FROM PAGE 131 he said.

Sources in attendance at the event said that bundled applications, including InterfaceBuilder, appeared stable even though they were running under a prerelease operating system.

Although the event was targeted at introducing HP's new line of workstations, NeXT partisans in the audience were impressed with HP's commitment to NEXT-STEP. One source said the Object. Enterprise initiative was mentioned within the first five minutes of the

Hadar Pedhazur, managing director of global equity derivatives for Union Bank of Switzerland, said that the port, along with the recent alliance with Sun, should provide NeXT with newfound inroads into the financialservices market, which already has a significant investment in both Sun and HP hardware.

"People in the financial-services community have a workstation mentality," he said. "Now I can pick my favorite workstation vendor but still run my mission-critical software."

NEXTSTEP for PA-RISC is expected to be available for the HP Apollo 9000 Models 712, 715. 725, 735, and 755 workstations in mid 1994.

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Mesa tuned for multiple platforms

by PAUL CURTHOYS

Boston – Athena Design in January took an early lead among third-party developers in supporting NeXT's cross-platform alliances by announcing that it will release versions of its Mesa spreadsheet for OpenStep and NEXTSTEP for PA-RISC.

The ports of the popular spreadsheet will be available concurrently with the release of the two new operating-system versions, according to the company.

Signs of early progress were visible at Hewlett-Packard's unveiling of its new Model 712 hardware line, when Mesa was demonstrated running on an alpha version of NEXTSTEP for PA-RISC (see "NS takes financial RISC").

Athena also announced that it will release ports of Mesa for any new platforms on which NEXT-STEP becomes available.

Both new versions of Mesa will be available at the usual price of \$499; educational discounts and site licenses will also continue to be available.

Athena Design can be reached at 17 St. Mary's Ct., Boston, MA 02146. 617/734-6372, 617/734-1130 fax; info@athena.com.

when users can launch the Workspace Manager and start an application from their NextApps directory.

Both price promotions began January 11 and expire March 15. "We are providing customers an opportunity to experience [NEXT-STEP] without having to invest a lot of money," said Rick Jackson, director of product marketing for NeXT.

With the Developer Bundle, NeXT offers both NEXTSTEP Developer and NEXTSTEP User for \$995, sharply discounted from a normal combined retail price of \$2790 and only slightly higher than the standard \$795 retail price for the user version. Both the user and developer products are required to run a development system. This promotion is limited to one copy per department or project.

The Project Starter Pack includes five copies of the user system, three NEXTSTEP developer packages, and one registration to NeXT Developer Camp. It costs \$7995 for a package that would normally run \$11,760.

B U S I N E S S N E W S

Phibro system spurs NS sales Swedish VAR

by PAUL CURTHOYS

Greenwich, CT – In the burgeoning commodities-trading market, a ground-breaking custom app developed by Phibro Energy is fueling intense interest in NEXT-STEP.

A full front-office to back-office transaction system, the Phibro Trading System revolutionizes the trading process by providing one tool for everything from trading, analysis, and risk management to scheduling and tracking the movement of oil tankers. The app is owned by Phibro but marketed and resold by Systemhouse.

"Phibro has created a lot of interest in NEXTSTEP because of the excitement over this software," said Jeff Kvam, vice-president of capital markets and trading at Systemhouse, where he oversees sales and marketing of the trading system. "These new custom-

ers would never consider NEXT-STEP on its own, but they're interested in this turnkey system."

The software helped cement deals at EOTT Energy Corporation in Houston; PEMEX, the national oil and gas company, in Mexico City; and Lagoben in Caracas, Venezuela. Deployment is underway at all three locations.

Kvam reported that sales to three to four more commoditiestrading firms are in the works and appear promising.

Systemhouse expects to gross \$20 million this year from selling and supporting the package to commodities-trading firms across North America, according to Kvam.

"That could grow to \$30 million a year every year in the future," Kvam added. "I'm confident that [the software] can become a dominant force in the market as a competitive advantage to solving business problems in the financial-services industry."

goes to bank

by PAUL CURTHOYS

Stockholm – As NEXTSTEP continues to make a splash in the financial-services market, several promising new deals are underway at Swedish financial institutions.

Three Swedish banks – Handelsbanken, ABB Finance, and Swedbank – are currently exploring pilot projects with NEXTSTEP custom apps that handle securities, maintain pensions, and calculate margin calls for options and futures.

"These three installations will open up the bank and finance markets in the Nordic countries," said a spokesman for Initiera, the VAR overseeing the sales.

Initiera plans to work jointly with HP and Sun to bring the benefits of NeXT's cross-platform alliances into this market as well, he added.

Cub'X gets new name, home

by PAUL CURTHOYS

Palo Alto, CA – Providing customer service across an ocean and several time zones can be quite a challenge. That's why Intuitive Systems, the French developer of intuitiv'3d and Cub'X-Windows, in January relocated its offices to California.

"The American market is the biggest part of the NEXTSTEP market," said Claire Normand, marketing manager at Intuitive Systems. "We've always wanted to be in the U.S. to reach the American market." Normand added that sales have improved since her company's move.

In its new location, Intuitive Systems will continue to refine intuitiv'3d, its 3-D modeling app. Normand said the company had planned to have a new version ready for release by the end of February.

The move also involves a name

change for the company, which has been called Intuitive Technologies and Cub'X Systèmes in the past.

Intuitive Systems can be reached at P.O. Box 60849, Palo Alto, CA 94306. 415/852-0245, 415/852-1271 fax; info%intuitiv.uucp@netcom.com.

NeXT reopens office in France

Paris – NeXT reopened an office in France in February. The office, in the La Defense section of Paris, will be headed by Director of Sales Christian Kunze.

"We made our targets for 1993 and know we can sell our software. Our 1994 goals include a fair share for France, and you need a local office to sell effectively there," said Bernhard Woebker, NeXT's vice-president for Europe. Kunze was director of European operations for Gain, a unit of Sybase, before joining NeXT. Jean-Michel Lunati, former technical director for Cub'X Systèmes, will work for Kunze.

NeXT Europe now has operations in Germany, France, and the United Kingdom, with 15 total employees.



Conference [FROM PAGE 13] PA-RISC, and NEXTSTEP for PA-RISC.

NeXT also announced PDO 2.0, which includes support for SunOS, Solaris, Data General UX, and Digital Equipment OS/1. This new version of PDO better supports heterogeneous deployments by integrating a C++ compiler into the existing Objective-C compiler and adding support for the GNU make program. PDO 2.0 will ship for the Sun systems in April, and Jobs predicted that it would be supported by five to ten operating systems by the end of 1994.

The conference followed an upbeat two-day NeXT sales meeting, during which the company set new sales targets and quotas.

According to sources, NeXT is looking for 85,000–100,000 NEXTSTEP sales and \$50 million in revenue in 1994.

Much of the focus of the developer conference was on NeXT partners. Among those hosting product-display suites were HP, Digital Equipment, NEC, Epson, Intel, and Systemhouse. Borland and NCR, which paid for suites, did not use them. The Association of NeXT Developers International hosted several third-party developers in its suite.

A second-day keynote by former Pentagon CIO Paul Strassman underscored the strong government presence at the conference, which drew the bulk of its attendance from the Washington, D.C. area.

Dev partner head named

by DAN LAVIN

Margaret Grover (formerly Chan) has been named to head developer partnerships for NeXT as the company continues to refine its third-party strategy.

The position will hold the upgraded title of director of developer relations and report directly to Warren Weiss, vice-president of North American sales and marketing.

"In addition to current efforts, Margaret will be aggressively recruiting business-oriented clientserver technology developers [that write apps] like CASE tools and front-end planning and analysis systems," said Weiss.

Julie Saffren, who formerly held the position, has made a lateral move and become manager of marketing programs under Karen Steele, director of marketing communications.

In addition, Saffren will have responsibility for NeXTWORLD Expo.

Grover was previously a director in product management and becomes the sixth person in three years to hold the developer-partnerships position.

BRIEFS Continued

macros and constants, that are designed to speed application development. According to the company, the software allows programmers to manipulate strings, paths, regular expressions, and data as objects, while reducing memory-allocation errors. OTI: 212/227-6767; info@object.com.

Xedoc has partnered with Helios USA, a major U.S. distributor of network operating systems, particularly for Macintosh networks based on UNIX servers. Xedoc plans to leverage its Net-Info product expertise and create a product called EtherEvents, to be sold as part of Helios's EtherShare product line. Helios has a customer base of 25,000 UNIX and AppleTalk systems, the largest in the world. Xedoc: 61/3/696-2490; info@xedoc.com.au.

VVI charted a new course in February with the release of Graph-Builder 3.2 and its accompanying Graph Object Library. By incorporating user-definable preferences, GraphBuilder can be used to integrate data and report generation into custom applications, according to the company. The app is priced at \$198 (\$89 for academic customers) and includes documentation, header files, and a complete API. The Graph Object Library comes with tech support and on-site training. VVI: 814/234-9613.

Ciusa in January announced that it had signed agreements with Olduvai Corporation to license Olduvai's Macintosh ArtClips, ArtFonts, BrushFonts, and CoolFonts for NEXTSTEP. Ciusa will sell the \$129 and \$149 packages as stand-alone products and bundled with other Ciusa offerings. Ciusa: 612/822-1604.

Jackson, a Taiwan-based developer of Chinese publishing software, has released a free Chinese PostScript font for NEXTSTEP. The KaiSu font, one of 33 available from the company, will be distributed by the Taiwan NeXT User Group and placed in major ftp sites around the world. Taiwan NeXT User Group: david@twnug.info.com.

Developer Thierry Charles has shipped beta versions of Report-Builder and ReportEngine, two tools for generating reports from client-server databases. Demo copies are available via ftp from cs.orst.edu and nova.cc.purdue. edu. Contact: 33/67/22.48.66; infos@seldon.fdn.org.

ObjectWorld [FROM PAGE 13] nered with NeXT instead of Taligent because "NEXTSTEP has all the bugs out and is ahead of it all; Taligent is still bumping into walls," he said.

"And even when [Taligent and Microsoft] are done, NeXT will be better."

When OpenStep becomes available on Solaris, "it has a great chance of becoming the object standard for open systems," said Paul Vais, NeXT's director of strategic alliances.

To prepare for this future version of Solaris, NeXT officials encouraged developers to continue writing applications on NEXT-STEP for Intel, promising 95-percent compatibility with OpenStep for Solaris.

SunSoft officials pledged to their customers that the existing 8500 Solaris applications will run under OpenStep, while reminding them of the promised benefits that object-based application development will bring.

"Customers are more and more fed up with software development," Green said. "They want instead to run their business. They want to buy objects instead of developing them."

While officials remained tight-

lipped about many details, Green did say that developers at NeXT have already extracted OpenStep from the NEXTSTEP operating system, and SunSoft developers have begun porting it to Solaris.

He also said that, while final packaging decisions have not been made, SunSoft will make Open-Step available on Solaris as "part of the system," instead of charging extra for it.

Developers took in the announcements and pondered their moves.

"OpenStep could open up a door for us to take technology that we've already developed to [the NEXTSTEP] market-place," said Nathan Hatch, WordPerfect Corporation's product marketing manager for UNIX products.

But WordPerfect will continue to do base development for all of its UNIX versions on the current release of Solaris and stick with its November decision to halt development of its word processor for NEXTSTEP, at least for the time being, he said.

Cara A. Cunningham is the U.S. correspondent for the IDG News Service. Additional reporting by Clair Whitmer.

COSE efforts slowed?

While the agreement between Sun-Soft and NeXT may speed objectbased application development, it could also trip up the efforts of the Common Open Software Environment (COSE) initiative to unite UNIX once and for all.

"It's a concern" that Sun chose to adopt NeXT's technology, said Larry Loucks, vice-president of software architecture with IBM's personal software products group.

Industry insiders and other

HP [FROM PAGE 13] environment, and those who want to migrate from standard UNIX," Schad said.

Nevertheless, the deal was a setback for NeXT, which had hoped to bring HP into the OpenStep camp. In the deal, HP acquired 15 percent of Taligent and gained a seat on Taligent's board of directors. Taligent will submit object API specs to X/Open and the Object Management Group, the same bodies that will consider OpenStep.

Unlike OpenStep, in which the NEXTSTEP application environment is the top layer and is separate from CDE (Common DeskCOSE founding members wonder where Sun's loyalty lies; IBM and Hewlett-Packard, for example, have committed to using competing Taligent technology.

But according to Jim Green, SunSoft's director of object products, "COSE agrees that all vendors will build on [CORBA] technology," adding that each vendor is pursuing different avenues to build the best object-oriented development environment.

top Environment), HP expects to use Taligent objects as a middleware layer under CDE (see diagram, page 13).

For Taligent, beleaguered by budget battles at IBM and Apple, the HP move is a shot in the arm. Needing new investment to sustain itself until it ships a product, Taligent had courted both HP and Sun for many months.

According to a Taligent developer, Sun's OpenStep agreement increased HP's bargaining strength. "It wasn't that HP was driven by OpenStep to go to Taligent, but that OpenStep allowed them to make a much better deal," he said.

Sullivan rolls out carpet for visiting NeXT crowd

s January drew to a close with Washington in a deep freeze, Lt. Sullivan's world was a collection of loose ends. At the Pentagon, officials were on edge as the drama over Aspin's ouster, Inman's self-immolation, and Perry's indecision left a power vacuum. The NeXT community was assembling for three days of pep talks over in Woodley Park, but the conference kickoff was still 24 hours away. Meanwhile, the boys at NeXTWORLD were clamoring for Sullivan's latest dispatch from the front.

Couldn't we just hold off a couple of days for events to settle, Sullivan wondered. Sorry, Lieutenant, a deadline is a deadline.

NeXT has deadlines, too, Sullivan discovered during a preconference schmooze in the hotel bar. The company has to cement its technology lead with some serious sales this year, execs told the sales force in a company meeting the day before. The targets: 100,000 units this year, 300,000 in '95, and 500,000 in '96. That would leave NeXT with a million-seat installed base before its competitors are able to grab even a toehold in the object wars.

Company execs sketched out a future product strategy that features a 3.3 release with DBKit 2 and whatever else is ready in mid-1994, with 4.0 scheduled for next year.

The comic high point of the meeting was an intramural game of NeXT Jeopardy, in which salespeople were tested on their knowledge of Redwood City trivia — or, in one case, tongue twisters. Asked to name NeXT's vice-president of sales and marketing, VP of North American sales, and director of corporate marketing, District Manager Fred Giardana came up with "Wesemann, Weiss, Weissman," but in the wrong order.

The best comeback since David Gergen has to be FrameMaker for NEXTSTEP. Apparently some heroic efforts by NeXT staffers coupled with loud customer voices has convinced Frame Technologies to climb back into the proverbial Jacuzzi. Nothing has been announced yet, but it looks like dreams are coming true.

he Lighthouse Design buying spree mentioned last issue is not the only sign of activity at the firm. The company is in the process of bringing on more programmers for its forthcoming CASE tool app, developed to order for two major NeXT customers. Meanwhile, the company was already showing its two mainstream apps, Diagram! and Concurrence, running on PA-RISC. Finally, Lighthouse's self-styled Mesa-killer appears to be on track for a precision midyear appearance.

While Sullivan's stock in trade is outguessing the future, he isn't above wallowing in the past. Earlier in the month, Sullivan dropped by the MacWorld show in San Francisco and found that he wasn't the only one feeling nostalgic for the ten-year-old Macintosh dream. A panel of early Mac veterans, including Guy Kawasaki, Andy Hertzfeld, Steve Capps, Joanna Hoffman, Mike Murray, and Bill Atkinson, reminisced about the Mac's salad days and reached for some lessons learned. All agreed that Steve Jobs had been much maligned in the press and that, though some of them still bear the scars from his volcanic temper, he really was

a genius without whom the Macintosh revolution would never have happened.

As for NeXT, well, they hemmed a bit and hawed a little, but the consensus was that NeXT's technology was really interesting and the Sun–NeXT deal would help Steve's latest venture find its niche.

hen there was this other historical footnote, a piece of e-mail dated March 18, 1993, from Scott McNealy to an unnamed NEXTSTEP developer. You'll recall that this was the period when NeXT, having just dumped hardware, turned down what many considered an attractive offer from Sun. Here's Scooter's contemporaneous reaction: "I have nothing against Steve. I am a businessman, not a society columnist. NeXT has done some interesting software. We have offered for NeXT to port it to SPARC and/or Solaris. They have chosen to spend their efforts elsewhere. Either NeXT makes more compelling software, makes better deals to potential partners, makes

different business choices, or continues to gain speed while losing altitude. I fear they are gaining speed."

What a difference a year makes. Back in the present, Sullivan placed a call to arrange a suite for a late-night reception and information exchange sometime later in the week. It would hardly be sporting – like shooting ducks in a barrel. Check this space next month for a full report on the gossip from the D.C.

NeXT may have turned down DEC on a NEXTSTEP port to Alpha, but the Lieutenant would never turn down a request for a mug from a good tipster. It's yours in trade for an insider tip. Leave me voice mail at 415/978-3374 or e-mail me at sullivan@nextworld.com. Sullivan's public RSA key available upon request.



The NeXTWORLD Top 50

Looking back at our first snapshot of the NEXTSTEP market ("NeXT Market Mosaic," Summer 1992), impressive numbers and broad market penetration were more the exception than the rule. As we

eyeball the market today, it's easy to see NeXT's gains in

developing a presence in enterprise computing.

This new list, compiled from research and customer interviews, sports much larger sites and several new market segments with strong growth potential. And NeXT's recent alliances with HP and Sun are providing strong encouragement in many quarters.

Despite this obvious growth, small because many companies are ects or building prototypes before enterprisewide rollout. Our interthis buying pattern is common in of the market. For example, VME, a of furniture-sales companies, has only numbers occasionally remain finishing pilot projembarking on an views indicate that many segments German union 20 machines

but has agreed to purchase over 8000 more seats. The same is true for other promising European, health-care, and financial-services sites, which appear in the chart (highlighted in red) because their plans indicate serious potential for growth.

According to industry sources, interest remains strong and NEXTSTEP continues to flourish in financial-services and commodities-trading firms. A custom commodities-trading application developed by Phibro Energy has become a sought-after tool, luring at least three other sites into choosing NEXTSTEP.

And in telecommunications, industry leaders are signing on, which could lead to a trickle-down effect in the remainder of that market.

On the down side, many university representatives voiced concerns about NeXT's lack of support and disinterest in selling new seats into their market, jeopardizing a good opportunity to seed NEXTSTEP dedication in the future work force. Government sites, while apparently also growing, were difficult to pin down because of the classified nature of their work.

The NEXTSTEP market has a stronger pulse this year. Between NeXT's cross-platform alliances and its continued expansion in promising new directions, the heart rate of the market should only become healthier. by PAUL CURTHOYS

PHOTOGRAPHS BY DAVID MAGNUSSON

Top 50 NEXTSTEP Sites

NAME	LOCATION	TYPE OF BUSINESS	INSTALLED
	LOCATION	TIPE OF BUSINESS	INSTALLED
Swiss Bank Corporation	Basel, Switzerland; Chicago; and London	Financial institution	2500
CHRYSLER FINANCIAL CORPORATION	Detroit, various locations in United States	Auto financing	700
FIRST NATIONAL BANK OF CHICAGO	Chicago	Financial institution	~400
PHIBRO ENERGY	Greenwich, CT; Westport, CT	Commodities trading	300
TRIMARK FINANCIAL CORPORATION	Toronto, Ontario	Mutual-fund management	~220
Union Bank of Switzerland	New York	Financial trading	~150
NATIONSBANC-CRT	Chicago	Financial trading	100
Federal National Mortgage Assn. (Fannie Mae)	Washington, D.C.	Home-mortgage underwriting	~100
Republic New York Corporation	New York	Financial trading	60
EOTT Energy Corporation	Houston	Gas and oil trading	23
Dow Jones Telerate	Jersey City, NJ	Financial-data feeds	12
PEMEX	Mexico City	Mexican national oil and gas company	N.A.
HEALTH CARE			SALES NO.
Value Behavioral Health ¹	Falls Church, VA	Managed health care	600
Mt. Clemens Hospital	Warren, MI	Hospital	130
Alberta Children's Hospital	Calgary, Alberta	Hospital	85
Rush-Presbyterian-St. Luke's Medical Center	Chicago Chicago	Hospital	80
ABBOTT LABS	Abbott Park, IL	Medical-equipment manufacturing	75-80 ²
GLENROSE REHABILITATION CENTER	Edmonton, Alberta	Rehabilitation medicine	45
GOVERNMENT 3			
U.S. Air Force and U.S. Navy	Various throughout United States	Defense	4000-5000
Los Angeles County Sheriff's Department	Los Angeles	Public safety	619
Advanced Research Projects Agency	Arlington, VA	Federal research-funding agency	~100
CITY OF BALTIMORE	Baltimore	Transportation and budget research	66
Alberta Registries	Edmonton, Alberta	Registry of vehicle and property information	50
TELECOMMUNICATIONS	the second se		
WILLIAMS TELECOMMUNICATIONS	The Woodlands, TX; Tulsa, OK	Private-line carrier	330
McCaw Cellular	Seattle	Cellular-phone service and sales	250
US WEST	Denver, Minneapolis	Local-phone services	100
ROGERS CANTEL MCI CONSUMER	Toronto	Cellular-phone service and sales	60
	Washington, D.C.; Denver; Colorado Springs, CO	Long-distance phone carrier	10
VAL VERDE UNIFIED SCHOOL DISTRICT	Riverside, CA	K-12 school district	272
University of Alberta	Edmonton, Alberta		572
ALLEGHENY COLLEGE	Meadville, PA	Higher education Higher education	305
STANFORD UNIVERSITY	Stanford, CA	Higher education	300 248
Rose-Hulman Institute of Technology	Terre Haute, IN	Higher education	240
Indiana University	Bloomington, IN	Higher education	200
University of Maryland	College Park, MD	Higher education	~200
Simon Fraser University	Burnaby, British Columbia	Higher education	170
ITESM	Monterrey, Mexico	Higher education	164
PRINCETON UNIVERSITY	Princeton, NJ	Higher education	150-175
EUROPE			
DELO PUBLISHING	Ljubljana, Slovenia	Magazine and news publishing	160
Linklaters & Paines	London	Law firm	150
TELEHOLDING	Amsterdam, The Netherlands	Commercial telecommunications	140
Ticino Vita	Lugano, Switzerland	Life insurance	80
LONDON STOCK EXCHANGE	London	Stock trading	60
VME	Various throughout Germany	Union of furniture-sales companies	20
BARCLAYS BANK	London	Financial institution	25
Сомво	Utrecht, The Netherlands	Mobile communications network	45
NILEG	Hannover, Germany	City planning	40
PROFESSIONAL SERVICES BJK&E	N. V. I. D. II.		
ALAIN PINEL REALTORS	New York, Dallas	Advertising	1000+
WILLIAM MORRIS AGENCY	Various in San Francisco Bay area Beverly Hills, CA	Real estate	385
Organization Resource Counselors	New York	Talent agency	375
TRIDENT DATA SYSTEMS	Los Angeles	Human resources	~50
INDUSTRIAL	Los migetes	Computer services	~50
Los Alamos National Laboratory	Los Alamos, NM	Research	250
STRATUS COMPUTERS	Marlboro, MA	Computer manufacturing	~200
PANCANADIAN PETROLEUM	Calgary, Alberta	Oil and gas production	100-200
PINOLE POINT STEEL	Richmond, CA	Steel manufacturing	43
Morrison-Knudsen	Boise, ID	Mining coal and gold	35
1 Formerly Preferred Health Care 2 Abbott Labs plans to purchase an additional	6000 NEXTSTEP seats, which it will resell with its medical-information processing software		

1 Formerly Preferred Health Care 2 Abbott Labs plans to purchase an additional 6000 NEXTSTEP seats, which it will resell with its medical-information processing software. 3 Data on several large, classified sites within the U. S. government was not available for publication.

INSTALLED

-400 -220 ~150 ~100 N.A.

4000-5000

~200

150–175

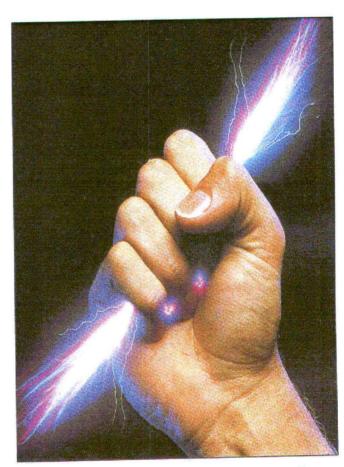
> 1000+

~50 ~50

~200 100–200

nt was not available for publication.

Now, GET NEXT-GENERATION GRAPHICS-ENGINE PERFORMANCE. AT AFFORDABLE, PC-TYPE PRICES.



Introducing the LOGISYS' NX family. The first NeXTSTEP 486 workstation for object-oriented applications.



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The Lucky-Goldstar Advantage

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At Lucky-Goldstar, we know what systems professionals are looking for. First, a reliable, well-designed workstation that delivers the performance you need for today's sophisticated business applications. That's basic.

But in today's competitive environment, you also need systems that break new technology ground, without breaking the bank. That's why so many FORTUNE 500 companies are turning to Lucky-Goldstar for their next-generation graphics workstations. Because we deliver high-end, NeXTSTEP computing performance. At very affordable prices.

Custom-Configured Solutions

Our LOGISYS NX family systems can be customtailored to meet your precise needs. You just tell us the kind of memory, disk, monitor and other peripherals you'd like, and we'll build it—instantly. Lucky-Goldstar is one of the few companies in the U.S. with access to a truly comprehensive array of computer and peripheral components.

Systems Loaded with High-Performance Features

LOGISYS combines—in one economical package—all the high-performance features you need for a broad spectrum of business and engineering applications. For processing power, you can choose among a variety of 33-, 50- and 66-MHz Intel 486 CPUs, and an upgrade path to even more power with the upcoming Pentium® Overdrive®. Plus you get power boosts from our 64 KB write-back external cache (expandable to 256 KB), and high-speed internal memory expandable up to 128 MB.

For faster system operation, LOGISYS provides a VESA standard local bus slot for IDE, SCSI, or LAN interfaces.

Dazzling Graphics Capabilities



Now, for the first time, LOGISYS workstations make high-resolution graphics a practical reality for business users. These are the first systems fully tested and shipped on a large scale that incorporate NeXTSTEP 486 software—the graphics environment that thousands of users bought NeXT computers to get their hands on. And once you've seen this GUI for yourself, you'll understand why.

Plus LOGIS special hardwa that speed up g tions. Whether in a Windows, I CAD environment impressed by the response. Beca



DARD IN OPHICS WORKSTATIONS—FROM LUCKY-GOLDSTAR

ous slot for AN interfaces.

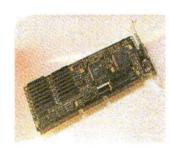
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Plus LOGISYS features special hardware accelerators that speed up graphics applications. Whether you're operating in a Windows, NeXTSTEP or CAD environment, you'll be impressed by the system's fast response. Because it comes

standard with an integrated WinGine Local Bus Graphics Controller with its own built-in



intelligence, which assumes tasks normally performed by the system CPU, and thus speeds overall response.

Other graphics hardware features help produce clean, crisp display images with lifelike color:

- Dual-ported, full system speed video RAM (VRAM)
- 1 MB or 2 MB of 32-bit VRAM memory
- Advanced, 24-bit, true color RAMDAC
- Screen resolutions up to 1280 x 1024
- PS/2-type mouse port on the video controller

Backed by a \$37-Billion Corporation

For over three decades,
Lucky-Goldstar has been
one of the world's leading
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and industrial electronics.
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quality and our commitment
to customer satisfaction have
built a reputation for reliable
products of unsurpassed
value. And with our new
LOGISYS NX line, this
commitment continues.



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LOGISYS 450NX/2

50 MHz 486DX/2 microprocessor with 256 KB cache memory

LOGISYS 466NX/2

66 MHz 486DX/2 microprocessor with 256 KB cache memory

Standard System Features

Processor

Intel 80466DX/2-50 MHz, upgradable to DX/2-66 MHz

Cache

Internal 8 KB and external 256 KB

Memory

16 MB of high-speed memory, expandable to 128 MB

Graphics

WinGine graphics controller with 2 MB 32-bit VRAM, advanced true color RAMDAC to 65K colors, resolution to 1280×1024

Disk Drive

One 3.5" FDD and standard 260 MB HDD, IDE interface

Storage

Two 3.5" bays for FDD/HDD and three 5.25" bays for FDD/tape backup/CD-ROM drive

Interfaces

Two serial, one parallel, and PS/2 mouse port

Mouse

Microsoft PS/2 mouse

Expansion

One 8-bit, five 16-bit, one VESA local bus, and one WinGine local bus

Power Supply

200 Watts with manual line switching

Monitor

15" SVGA color monitor, 0.28-mm, 1024 x 768 resolution, 30 KHz-60 KHz (H), 50 Hz-90 Hz (V) range

Options

Memory

16 MB (STD), 20 MB, 32 MB, 64 MB, and 128 MB using 1 MB, 4 MB, 16 MB, 64 MB SIMMs

Floppy Disk

5.25" 1.2 MB floppy disk drive

Hard Disk

260 MB (STD), 340 MB, 450 MB IDE and 540 MB, 1050 MB SCSI with Adaptec 1542CF adapter

Mouse

Microsoft PS/2 mouse (STD), bus mouse, and Logitech 3-button bus mouse

Software

Microsoft MS-DOS V6.2, Windows V3.1, NeXTSTEP 486 and more...

Monitor

15" (STD), 17", and 20" SVGA monitor; others are also available

Other

LAN card, CD-ROM drive, sound card

Cabinet

Desktop with 200 Watts (STD), mini tower, and full tower case with 250 Watts power supply

Offices

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Slight growth 140 in 1994 8000+

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LUCKY-GOLDSTAR INTERNATIONAL

PLANS

2500 30 more in 1994 50 more in 1994 300 maximum

Confidential

Will grow 200 more in 1994 75 more in Q1 1994; n 40 more in 1994

200-300 more 150 more in 1994

150 in 1994

None in the near future 40-50 more in 1994 250 more by 1996 Will grow Possibly 100-200 more

100-150 in 1994

Continued growth Will expand Not determined Growth possible Not in the near future

100 more in 1994 4000 by 1996 Not determined 600 in 1994 40 more in 1994

200-400 more None 75-100 more possible

None None None

May grow None 10 more in 1994

None

300 by 1994

1600 50-100 more

~2000+ 250 more by 1996 80

Confidential 450 Not in the near future

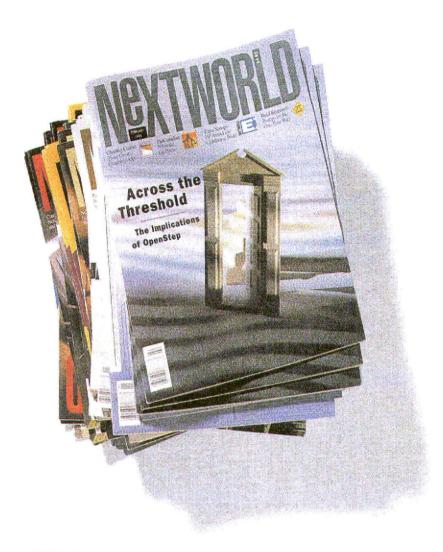
50 more in 1994 Growth likely

10-20 more 200 more in 1994 1000-1200 None 15 more

PLANS	MOTOPOLA INTE		
n and a second	MOTOROLA:INTEL	OTHER SYSTEMS IN USE	USES CONTROL OF THE PROPERTY O
Confidential	9:1	Sun, HP, PCs	Trading, office automation, e-mail
2500	All Intel	None None	Custom auto-financing system
30 more in 1994	Mostly Motorola	Sun, HP, PCs	Office automation, custom risk-management software
50 more in 1994	All Motorola	Sun, Auspex	Custom apps for trading and risk-management
300 maximum	Mostly Motorola	Sun, VAX, PCs, Mac	Accounting, office support, mutual-fund client service
Will grow	9:1	Sun, DEC	Trading of stocks, options, and futures
200 more in 1994	1:3	HP	Custom derivatives-pricing app
75 more in Q1 1994; more later	Mostly Motorola	PCs, Sun	Custom collateral-management apps
40 more in 1994	Mostly Motorola	Sun, PCs, DEC	Word processing in legal department
200–300 more	All Intel	HP	Commodities-trading app
150 more in 1994	1.4	HP, Sun	Real-time financial-information software development
150 in 1994	All Intel	Sun, HP	Commodities-trading app
None in the near future	All Motorola	Sequent, Mac, PCs	E-mail, system for tracking information on care providers
40–50 more in 1994	All Motorola	Sun, PCs	Patient-care system
250 more by 1996	1:15	None	Patient-care system
Will grow	7:1	Suns, PCs	Personal productivity, custom administrative app
Possibly 100-200 more by 1995	1:1	Sun	Custom medical-information processing app
100–150 in 1994	1:8	Tandem	Patient-information system
Continued growth	All Motorola	Sun, HP, DEC, VAX, Auspex, Pyramid	E-mail, office automation, custom administrative apps
Will expand	2:1	DEC, Sun, Sequent, PCs	E-mail, custom apps
Not determined	Mostly Motorola	Sun, SGI	Office automation
Growth possible	All Motorola	PCs	Office automation in parking bureau and budget department
Not in the near future			
Not in the near ruture	All Motorola	PCs PCs	Accessing vehicle-registry information, office automation
100 more in 1994	6:1	HP, Sun, PCs	Custom-software development, office automation
4000 by 1996	Mostly Intel	Sun, HP, PCs, DEC, VAX	Customer-service management
Not determined	Almost all Intel	Sun, HP	Office automation, custom apps
600 in 1994	1:5	IBM, Sun, HP, DEC	Developing and using apps for customer sales and service
40 more in 1994	All Intel	HP	Proprietary development of telecommunications software
200-400 more	All Intel	HP AND	Administration and business management, instruction, custom apps
None	60:1	IBM, SGI, Sun, Mac, PCs	Research, teaching math, and software development
75-100 more possible in 1994	24:1	HP, Sun, DEC, Mac, PCs	Student and specialized labs, faculty desktops, custom apps
None	Mostly Motorola	Mac, UNIX workstations, Sun, DEC	Multimedia development, programming classes, music research
None	All Motorola	HP, Sun, DEC, PCs	Open labs, math instruction
None	Mostly Motorola	SGI, Sun, Ultrex, DEC, Mac, PCs	Instruction in various subjects
May grow	All Motorola	Sun, IBM, Mac, PCs	Teaching lab for UNIX, engineering and computer-science classes
None	All Motorola	Sun, Mac, PCs, SGI	Open and computer-science lab, system administration, teaching
10 more in 1994	Mostly Motorola	HP, Sun, IBM	Computer lab, satellite delivery of education programs, custom apps
None	Mostly Motorola	Sun, SGI, HP, PCs	Library card-catalog system, instruction
	3:1	None	Management of editorial and production processes
1600	2:3	Wang	Office productivity
1600 50-100 more	2:3 All Motorola	Wang Sun, HP	Office productivity Interactive telephone voice-response system
1600 50-100 more Slight growth	2:3 All Motorola Mostly Motorola	Wang Sun, HP HP, IBM	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO
1600 50-100 more Slight growth 140 in 1994	2:3 All Motorola Mostly Motorola 1:3	Wang Sun, HP HP, IBM DEC, Sun	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market
1600 50-100 more Slight growth 140 in 1994	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel	Wang Sun, HP HP, IBM DEC, Sun	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel	Wang Sun, HP HP, IBM DEC, Sun None PCs	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel	Wang Sun, HP HP, IBM DEC, Sun None PCs	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential 450	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential 450 Not in the near future	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola All Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None None	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps Office automation, client directory, phone logs, tracking talent info
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1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential 450 Not in the near future 50 more in 1994	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola All Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None None	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps Office automation, client directory, phone logs, tracking talent info
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential 450 Not in the near future 50 more in 1994 Growth likely	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola All Motorola Mostly Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None None PCs, IBM	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps Office automation, client directory, phone logs, tracking talent info Custom apps, office productivity
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential 450 Not in the near future 50 more in 1994 Growth likely	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola All Motorola Mostly Motorola All Motorola All Motorola All Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None None PCs, IBM Macs, PCs, Sun	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps Office automation, client directory, phone logs, tracking talent info Custom apps, office productivity Software development, office automation
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential 450 Not in the near future 50 more in 1994 Growth likely 10-20 more 200 more in 1994	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola All Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None None PCs, IBM Macs, PCs, Sun	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps Office automation, client directory, phone logs, tracking talent info Custom apps, office productivity Software development, office automation Office automation, development of scientific apps
1600 50-100 more Slight growth 140 in 1994 8000+ ~2000+ 250 more by 1996 80 Confidential 450 Not in the near future 50 more in 1994 Growth likely 10-20 more 200 more in 1994 1000–1200	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola All Motorola All Motorola All Motorola Mostly Motorola All Motorola All Motorola All Motorola All Motorola	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None None PCs, IBM Macs, PCs, Sun Sun, HP, SGI, Mac, PCs Sun	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps Office automation, client directory, phone logs, tracking talent info Custom apps, office productivity Software development, office automation Office automation, development of scientific apps Customer-service app and database
300 by 1994 1600 50-100 more Slight growth 140 in 1994 8000+ -2000+ 250 more by 1996 80 Confidential 450 Not in the near future 50 more in 1994 Growth likely 10-20 more 200 more in 1994 1000–1200 None 15 more	2:3 All Motorola Mostly Motorola 1:3 Mostly Intel All Intel All Motorola 3:1 1:1 Mostly Motorola All Motorola Mostly Motorola All Motorola 4:1 Mostly Intel Mostly Intel Mostly Intel	Wang Sun, HP HP, IBM DEC, Sun None PCs None HP SGI, PCs, Mac None None PCs, IBM Macs, PCs, Sun Sun, HP, SGI, Mac, PCs Sun Sun, PCs	Office productivity Interactive telephone voice-response system Custom app for life-insurance management, PDO Office automation, monitoring the U.K. domestic stock market Custom app for business management Office productivity Scheduling transportation schema and radiotelephone traffic Office productivity Process reengineering Office automation, custom apps Office automation, client directory, phone logs, tracking talent info Custom apps, office productivity Software development, office automation Office automation, development of scientific apps Customer-service app and database Development of custom apps for managing and marketing fuel

Dock Soup Returns

by BETH KAMOROFF and DAN



hat follows is a summary of reviews that have appeared in NeXTWORLD since the Summer 1992 issue, which was released nearly two years ago. Looking at the products side by side yields some interesting insights: Groupware is a rich source for emerging products; there is solid support for data-

base computing; and, despite NeXT's lack of concentration on the publishing market, outstanding products continue to ship. Tailor, the savvy PostScript editor, is a recent example. Also, hardware ratings are high, reflecting the impressive quality of hardware being sold for NEXTSTEP.

To reiterate our reviews criteria, three cubes indicate a workmanlike product that does the job, while four cubes is the maximum for a product that is outstanding but does not push the envelope. Only one product, the ZyXEL fax modem, has received five cubes - our indication of a nearly bug-free product that stretches the limits of the unique opportunities of NEXTSTEP. Products earning two cubes generally have flaws and bugs, while products with cube ratings of one cube or less have serious problems.

Product reviews in NeXTWORLD reflect the collective judgement of the reviewer and the editorial staff. We stand behind our reviews and invite comment on or discussion of our views.

This listing of NEXTSTEP products is not comprehensive, and only provides a summary of our reviews. Cube ratings and summaries are for the product version that we last reviewed, which is not always the current version. This listing only extends back to our Summer 1992 issue because we felt that previous reviews would be outdated by now. Products that fall in the categories of database adapters, objects, and content titles are not listed because these areas have many products that did not yet receive formal ratings or are still in development. Similarly, products that have not shipped or are no longer shipping are not listed.

Listings are in the following format: Product name and version as reviewed; date of issue; cube rating, current version, and current price; summary; and contact information. The step icon indicates a Best of Breed award winner.

Productivity

CheckSum 1.0, Nov 1993

An excellent job for personal finances but falls short in its claims for small-business accounting. Intuitive organization simplifies management of multiple bank and charge accounts. Sirius Solutions, 415/957-9044, 415/ 957-1921 fax; glocker@sirius.com.

conText 1.0, Dec 1993 (\$919)

Disappointing translating and spellchecking program, German only in its first version.

Lots Scneiders Kraft GbR, 46/631/ 109.91, 49/631/109.92 fax.

DataWise 1.0, Sep 1993 (Ver. 2.0.1, \$69)

Rewrite of Calendoscope scheduling program that is almost as weak as the original.

Ciusa, 612/822-1604, 612/922-4426 fax; ciusa@cup.portal.com.

FastTrack Schedule 2.0, Jun/Jul 1993 ***** (\$495)

This Gantt chart-based scheduling program did a solid job of organizing projects and tracking progress. AEC Software, 703/450-1980, 703/ 450-9786 fax; aec.tech@applelink. apple.com.

Fiscal Dimension 1.0, Apr/May 1993 (Ver. 1.2, \$249)

Billed as NEXTSTEP's only personal-finance application, it has more in common with ledger books than checkbooks. Given a little effort, it will fit the bill, but a quirky interface remains a liability.

AXSYS, 215/667-6822, 215/667-2654 fax; info@axsys.com.

Mesa 1.4, Aug 1993 (Ver. 1.5a, \$499)

Mesa sets out to be a straightforward basic spreadsheet, and that's just what it is. A macro recorder and a better undo would be nice, but Mesa gets the job done.

Athena Design, 617/734-6372, 617/ 734-1130 fax; info@athena.com.

Mesa Sunrise 1.5, Oct 1993 (\$349)

This stripped-down, low-cost version of Mesa is a fast, basic spreadsheet. Athena Design, 617/734-6372, 617/ 734-1130 fax; info@athena.com.

Pro Lexis Version 1.1a, Sep 1993 **(\$395)**

Easy-to-use and thorough French language dictionary and spell checker with grammer reference. Works with existing word processors.

Plexus Distribution, 514/270-1831.

QuantaFlow 1.1, Dec 1993

A solid client-server-based doubleentry accounting system for smaller businesses. Its innovative approach to computerized accounting is a win in the long term but lacks certain important features.

Sumeris Technology, 612/474-6505, 612/470-3593 fax; info@sumeris. com.

Questor 1.01, Aug 1993

Questor's elegant design, innovative features, and exemplary NeXT interface are more than offset by unacceptably slow recalculation and file operations.

Xanthus International AB, 46/8/ 635-3060; questor@xanthus.se.

RedMark, Win 1992 (Ver. 1.2.1, \$285)

Easy enough to use and professional in approach, this document markup package matches, but not improve on, editing on paper. Epitome, 615/675-0910, 615/966-

2558 fax; 72677.1034@compuserve. com (NeXTmail welcome).

TaskMaster 1.5, Dec 1993

A project-management program competitve with leading apps on other platforms.

Lighthouse Design, 415/570-7736, 415/570-7787 fax; info @lighthouse.com.

Intel Hardware

Alpine NX Tower (manufactured by Lexar), Feb 1994

\$\overline\$ \$\overline\$ \$\overline\$ \$\overline\$ \$\overline\$\$ \$\over ware] as configured)

Very good price with strong performance slowed by middling SCSI disk and somewhat slow S3 graphics. Alpine Computing MicroAge, 801/ 268-8877, 801/268-9096 fax.

ALR Evolution IV 4E/66D, Jan 1994 \$\mathbb{B} \ \mathbb{B} \ \mathbb{S} \mathbb{S} \ \mathbb{S} \mathbb{S} \ \mathbb{S} \ \mathbb{S} \ \mathbb{S} \mathbb{S} \mathbb{S} \mathbb{S} \\mathbb{S} \mathbb{S} \mathbb{S} \mathbb{S} \mathbb{S} \\mathbb{S} \mathbb{S} \mathbb{S} \mathbb{S} \mathbb{S} \\mathbb{S} \mathbb{S} \mathb

Strong system design at a competitive price with good performance but has outdated disk and slow ATI graphics. ALR, 714/581-6770, 714/581-9240

Continental Professional NeXT Workstation, Dec 1993

Fast SCSI jazzes up GX chassis, but has slow ATI graphics and is not the low-price leader.

Continental Computer Systems, 203/953-8649, 800/829-3297 fax.

Data General Dasher 486 DX2/66 LE2, 0ct 1993

Powerful machine at reasonable price hampered by ATI graphics. Data General, 800/343-8842 (US), 33/1/40.94.62.82 (Europe), 65/258/99.77 (Asia, Pacific).

High price tag, but worth it for superfast JAWS video.

Dell Computer Corporation, 512/338-4400, 512/794-4238 fax.

Epson NX User System, Oct 1993 (\$4949 as configured)

Superior video offset by low horse-power design.

Epson America, 310/782-0770, 310/782-5179 fax.

GEC F86, Jan 1994

(\$5745 as configured)

Low price for highly rated machine. Good performance, average graphics. GEC, 602/834-1111, 602/834-1522 fax.

Lexar NSCStation IDE, Feb 1994 \$ \$ \$ (\$5699 plus \$850 CD-ROM as configured)

Lots of extras for good price make for a solid value. Fast machine held back by IDE drive and slowish graphics.

Lexar, 609/890-9000, 609/890-3179 fax.

Logisys LG466NX/2, Nov 1993 (\$5266 as configured)

Good video, strong performance, reasonable price.

Lucky Goldstar Int'l (America), 510/657-2229, 510/657-3339 fax.

Workstation 2000 W2000-PGX02, Dec 1993

(\$7223 as configured)

Solid value GX chassis as configured but has slow ATI graphics. Workstation 2000, 619/723-4827, 619/723-4827 fax.

Database and Information Management

DataPhile 2.0, Dec 1993

(Ver. 2.1, \$695)

This classic NEXTSTEP app is an interface innovator and fun to work with. Although missing features such as record-level locking, multiuser access, and report summaries, DataPhile 2.0 remains the mainstream choice for flat-file databases. Stone Design, 505/345-4800, 505/345-3424 fax; info@stone.com.

NoteBook 1.1, Apr/May 1993 (Ver. 1.2, \$495)

An elegant synthesis of ideas yields a breakthrough application for storing, retrieving, and processing random information. Many users will use NoteBook as a central application that they constantly keep active. *Millennium Software Labs*, 415/321-3720, 415/321-3650 fax; info@millennium.com.

OnDuty, Sum 1992 (Ver. R1V34, \$249)

A light-duty contact organizer designed for individual NeXT users and small workgroups. Straightforward with reasonable performance. Digital Instrumentation Technologies, 505/662-1459, 505/662-0897 fax; od-request@dit.com.

PapyrusForms 1.0.1, Oct 1993 (\$249)

PapyrusForms serves adequately as a system for storing and printing digital forms, but it falls short in design tools, database connectivity, and workgroup features.

Ensuing Technologies, 702/792-6750, 702/792-6794 fax; info@ensuing.com.

Easy-to-use personal scheduler that scales up for use by small work-groups. While more flexible than most, could be improved by providing more personalization options. Sarrus Software, 415/345-8950, 415/345-9365 fax; info@sarrus.com.

This fast and reliable contact manager can find the person you want to contact, send e-mail and faxes, dial the phone, keep a log of your phone notes, and print envelopes, lables, and address books. Recommended without reservation.

Sarrus Software, 415/345-8950, 415/345-9365 fax; info@sarrus.com.

SpeedDeX, Sum 1992

(beta intel, \$149)

A simple, free-form database that is easy to use. Its price makes it a good value for meeting the simplest database needs.

Information Technology Solutions, 312/587-2000, 312/474-9361 fax; info@its.com.

(Stay)InTouch 1.25 (beta), Jan 1994

A competent contact manager. Some important featuers are missing, including the ability to sort entries by last name.

SmartSoft, 414/964-8864, 414/964-4672 fax; smartsoft@parsec.mixcom.

VarioData 2.6, Dec 1993 ♠ ♠ ♠ (Ver. 3.0.1, \$749)

VarioData is two apps for database design and database access. Vario-Builder lacks DataPhile's extensive design tools, but both apps are solid performers. Together, they take the pain out of database publishing. d'Art Computersysteme GmbH, 49/40/38.02.30, 49/40/38.02.32.90 fax; software@dart.de. Alembic Systems, 303/799-6223, 303/799-1435 fax; info@alembic.com.

Vertex Librarian 1.2, Jun/Jul 1993 ♦ ♦ (\$399)

Conceptual searching and hypertext linking are added to standard Digital Librarian features, but interface flaws contribute to a less-than-pleasant experince.

Vertex Software, 412/931-7600, 412/323-7175 fax.

What's Happening, Feb/Mar 1993 ♠ ♠ (Ver. 3.0, \$275)

Group-scheduling application that has most needed features. Underlying database lends an industrial feel. Adamation, 510/452-5252, 510/452-5033 fax; info@adamation.com.

Connectivity, Communications, and Emulation

Connect It! 1.0.1, Nov 1993 (Ver. 1.3, \$145)

This UUCP front end greatly simplifies the ease of setting up UUCP and e-mail connections. Despite its inability to handle preexisting connections, it is a valuable tool. Black Market Technologies, 718/522-5090, 718/852-4249 fax; info@bmt.gun.com.

Cub'X Window 2.01, Sum 1992

(Ver. 4.21, \$250-\$590)

A very solid X11R4 X Window system for the NeXT computer. Fast and complete version of this popular workstation system software. Annoying copy-protection scheme. Interactive Technologies, 33/1/46-93-29-25, 33/1/46-93-29-21 fax. Alembic Systems, 303/799-6223, 303/799-1435 fax; info@alembic.com.

Microphone II, Feb/Mar 1993 ♦ ♦ (Ver. 5.0, \$149)

Microphone II's powerful scripting tools, devoted phone-support staff, and money-back guarantee compensate for its first-release glitches. Software Ventures Corporation, 510/644-3232, 510/848-0885 fax; samir@svedudes.com.

mix 2.0, Oct 1993

(Ver. 2.02, \$200-1100)

An integrated communications software that combines the functionality of a fax modem, a telephone, and an answering machine. Powerful, but limited data-modem speed and hardware requirements.

Alembic Systems International, 303/799-6223, 303/799-1435 fax; info@alembic.com.

Partner 1.17, Oct 1993 (Partner/uShare 1.17, \$395)

Mounts AppleShare volumes under the NEXTSTEP file system, enabling you to read and write files on Macintosh computer networks. With included uPrint software, NEXTSTEP applications can print to AppleTalk printers via the standard Print panel. Information Presentation Technologies, 805/541-3000, 805/541-3037 fax; info@iptech.com.

SoftPC 3.0 Apr/May 1993 ♠ ♠ ♠ (\$549)

A nearly flawless emulation of a lowend '386 PC on NeXTSTEP. Performance is a little slow in Windows, but more than adequate for DOS. Insignia Solutions, 415/694-7600, 415/694-3705 fax.

Groupware

Front Desk 1.03, Aug 1993

Electronic version of a receptionist for messages and in/out tracking. Useful in some environments, superfluous in others.

Integrity Solutions, 612/223-8484, 612/223-8481 fax; steve@is.com.

LiveWire, Fall 1992

One of the first true pieces of group-ware, LiveWire allows multiple users to work collaboratively on the same document over a network. Adamation, 510/452-5252, 510/452-5033 fax; info@adamation.com.

An excellent implementation of a remote controller for NEXTSTEP machines. A godsend for education, technical support, and remote conferencing.

Otherwise, 206/647-9436, 206/738-6017 fax; screencast@otherwise.com.

Utilities

Dark Forest, Apr/May 1993

Excellent shareware for examining sizes of files and for cleaning up disks. Highly recommended. Found on archive servers and CD-ROMs by NeXT's Garth Snyder.

Labeling software and hardware. Slow and low resolution, but handy for one shots.

Marble Associates, 408/436-7299, 408/436-7147 fax.

A clunky interface mars this program, which provides a window onto a larger screenscape.

Johnson Sieu, P.O. Box 367, Berkeley, CA 94701-0367.

Speedy utility for mass duplication of diskettes. Flawless, but best for large projects.

SmartSoft, 414/964-8864, 414/964-4672 fax; info@SmartSoft.com.

Millennium added desktop icons and Smart Levels to its alreadyuseful Engage! utility to create a product that can change the way you use the workspace on a daily basis

Millennium Software, 415/321-3720, 415/321-3650 fax; info@millennium. com.

HSD Spell, Apr/May 1993 <a>♠ ♠ ♠ (\$149)

This replacement for the NEXT-

STEP spell checker adds and improved English language dictionary and the capability to check spelling in any language.

HSD, 408/774-1400, 408/774-1402 fax; info@hsd.com.

Inspector gadgets for viewing and modifying images and sounds, all without leaving the workspace. *Pinnacle Research*, 602/327-8949.

LoadEye 1.1, Nov 1993

Commercial-grade performance monitor, but not up to the standard of existing shareware.

Aurora Software, 608/231-3679, 608/231-1183 fax; info@as.com.

The latest version of Metrosoft's utility package is a winner with feature enhancements, improved performance, support for mixed networks of black and white computers, and an extended API.

Metrosoft, 619/488-9411, 619/488-3045 fax; info@metrosoft.com.

NetWatch1.0, Dec 1993

A simple-to-use SNMP network manager for use in smaller single system-administrator installations. Works well and as advertised. Ridgeback Solutions, 310/456-6094, 310/456-9715 fax; info@ridgeback.com.

Dock extender that outshines Metrotools version but comes in behind Engage. Sereral innovative features. Aurora Software, 608/231-3679, 608/231-1183 fax; info@as.com.

SafetyNet, Aug 1993 Utilities Award (Ver. 2.1, \$149-\$399)

Flexible, reliable, and easy-to-use backup software that allows you to rapidly find and restore archived files and directories. Recommended. Systemix Software, 410/290-8813, 410/290-8813 fax; info@systemix. com.

Simon Says, Sum 1992 **№ № №** (Ver. 2.0, \$295)

Software that brings affordable voice recognition to the NeXT machine. This speaker-department, language-independent system can be trained

to work with any NeXT application. *Metrosoft*, 619/488-9411, 619/488-3045 fax; info@metrosoft.com.

The most sophisticated of the virtual screen programs. Lets you simulate both a larger screen and multiple monitors.

Pinnacle Research, 602/327-8949.

WorldClock, Feb/Mar 1993 Ø Ø Ø (Ver. 026.[mi], \$49)

Worldwide clocks in Preferences format. Good, but lacks some daylight-savings support. Includes various alarm options.

Information Technology Solutions, 312/587-2000, 312/474-9361 fax; info@its.com.

Publishing and Graphics

Album, Sum 1992 **№** (\$59)

Allows you to collect images, sounds, and text files (but not applications) for quick access, but its functionality is superfluous, and its interface is an encumbrance.

Forty-Two Software-Entwickling GmbH, 49/40/85.32.4242, 49/40/ 380.0443 fax; info@forty-2.de.

Amateurish black-and-white EPS and TIFF icons.

Ciusa, 612/822-1604, 612/922-4426 fax; ciusa@cup.portal.com.

CHARTSMITH 1.0, Feb 1994 **№ №** (1.1 out in Feb, \$495)

The graphing app of choice for business users because of its effective use of the NEXTSTEP interface. With the printed docs and API that are promised for Version 1.1, it's a contender for a five-cube rating. BLaCKSMITH,703/524-6147, 703/524-7215 fax; info@blcksmth.com.

An excellent combination of an outliner and a slide-based presentation package. Both sides are clean, easy to use, and fully functional. Lighthouse Design, 415/570-7736, 415/570-7787 fax; info@lighthouse. com.

Diagram!2, Apr/May 1993

A substantial upgrade to the popular "digital whiteboard" that incorporates arbitrary text and graphic rota-

tion and a revamped user interface. Although almost too unstructured, still a big winner. Highly recommended.

Lighthouse Design, 415/570-7736, 415/570-7787 fax; info@lighthouse. com.

Dots 3.4.1, Nov 1993

Dots lets you print from any NEXT-STEP computer to a wide variety of non PostScript printers using NEXT-STEP's Display PostScript interpreter. Unless you print through the SCSI port, speed could be a problem. d'ART Computersysteme GmbH, 49/40/38.02.30, 49/40/38.02.32.90 fax; software@dart.de. Alembic Systems, 303/799-6223, 303/799-1435 fax; info@alembic.com.

DragBook 1.0, Nov 1993 Ø Ø Ø (Collaggi Palette 1.0, \$199)

Nifty workspace extender that is not as good as Engage, but has a more familiar interface.

GSCorp, 415/257-4700, 415/454-

eXTRASET 1.1 with Goldleaf Imagesetters, Sep 1993

8106 fax; info@goldleaf.com.

(\$19,000-\$37,000)

High-resolution imagesetting made

nearly as easy as printing to a laser printer. eXTRASET is a host-based RIP and an interface to the Goldleaf Imagesetters and other RIP's based on Linotype-Hell's Ultrex imagesetters. GS Corporation, 415/257-4700, 415/257-4707 fax; joe@goldleaf.com.

Fonts For Design – Art Deco Collection, Jun/Jul 1993

(\$87)

Set of 62 display faces meant for headlines and design. Some lack kern pairs.

Keystrokes, 802/525-8837.

Graphity 1.0, Feb 1994

The graphing app of choice for the NEXTSTEP power user. Allows users to turn graph documents into sophisticated multimedia presentations. Harnesses the power of RenderMan to create textured, illuminated, and shaded 3-D graphs. Xanthus International, 46/8/635-3060, 46/8/98.70.67 fax; graphity@xanthus.se. Alembic Systems 303/799-6223, 303/799-1435 fax; info@alembic.com.

22 NEXTWORLD MARCH 1994

This graphing app from an experienced data-visualization firm shows great promise for scientific and engineering uses and as a graphing module for custom apps. Needs a bit more polish in general.

Watershed Technologies, 508/460-9612, 508/481-3955 fax; graphright @watershed.com.

HERE's Color 1.002, Feb 1993 (Ver. 1.02 \$895)

HERE's Color makes color management easy, flexible, powerful, and expensive. The only color-management system that lets end users create color-rendering dictionaries. HERE, 513/792-0442, 513/792-0458 fax; here@here.com.

ICONgallery, Jun/Jul 1993 ♦ ♦ (\$99)

An icon manager and color-icon collection with many powerful features. Trident Data Systems, 310/338-3594; icons@tds.com.

| IconMaker, Sep 1993 | ♠ ♠ ♠ (\$150)

The first real icon editor for NEXT-STEP applies intelligent assistance to the art of icon editing. BlueSky Software, 818/988-5378, 818/989-4928 fax; eronike@cerf.net.

Image Agent 1.1c, Aug 1993 ♠ ♠ ♠ (Ver. 1.2c, \$99)

Background image conversion that works smoothly with any NEXT-STEP app that supports filter services. Bäcchus, 310/820-9145, 310/820-5930 fax; info@bacchus.com.

intuitiv'3d 1.0, Jan 1994

The best interface yet on a NEXT-STEP 3-D program helps make a complex world accessible to low- and mid-range users, while still providing plenty of power at the high end. Intuitive Technologies, 33/1/47.08. 74.40; info@cubx.com. Alembic Systems, 303/799-6223, 303/799-1435 fax; info@alembic.com.

High-quality typeface collection specifically designed for engineering and scientific use.

Nisus Software, 619/481-1477, 619/481-6154 fax; nisus@weber.ucsd.edu.

PasteUp 2.1, Dec 1993

PasteUp combines the precision of Quark and the ease of PageMaker with lots of thoughtful touches courtesy of NEXTSTEP. Version 2.1 is ready for prime time, despite occasional idiosyncrasies.

Anderson Financial Systems, 215/653-0911, 215/653-0711 fax; info@afs.com.

Pixel Magician, Sum 1992 ∅ № № (Ver. 1.4c, \$99)

A must-have universal graphics-format converter for desktop publishing and graphics work of all sorts. Quick, intuitive, and effective, the only thing missing is support for JPEG. Bäcchus, 310/820-9145, 310/820-5930 fax; info@bacchus.com.

solidThinking MODELER 1.2, Jan 1994

● ● ● (Ver. 1.3, \$1260)

This update to the powerful 3-D modeler adds Intel support, new features like motion blur, and the ability to import a wider variety of file formats, including Wavefront, DXF, and OpenCAD files. Still suffers from an awkward interface. Gestel Italia, 39/444-964974, 39/444-964984 fax; info@solid.gestel.it. Alembic Systems, 303/799-6223, 303/799-1435 fax; info@alembic.com.

Tailor 1.0c, Feb 1994

Tailor allows full manipulation and editing of PostScript files. It is an exceptional program with functionality unknown on any platform. Highly recommended.

First Class NV, 32/9/227-6248, 32/9/227-1589 fax; peter@firstclass.be. Alembic Systems, 303/799-6223, 303/799-1435 fax; info@alembic.com.

TIFFany II, Nov 1993 (\$695)

A mid-range image-editing application that works well with large image files. Extensive image-manipulation tools, including morphing and some animation tools. Has an API. benchMark Development, 606/255-3864, 606/254-4864 fax; info@bmd.com.

Trilithon ViewFont, FontCase, MacToPfa; Sep 1993

♦ ♦ (ViewFont 1.1, FontCase 1.0, MacToPFA 1.4, \$69)

A trio of utilities that bring integrated font management, viewing, and conversion capabilities to NEXTSTEP Trilithon Software, 415/325-0767, 415/325-0768 fax; info@trilithon. com.

Virtuoso 1.0, Apr/May 1993 ✓ ✓ ✓ ✓ (Ver. 2.0 out in Mar, \$695)

A superb illustration program with many innovative features. Sporting superior layout and text-formatting capabilities than its competitor, Illustrator, it lacks only graphing tools. Altsys Corporation, 214/680-2060, 214/680-0593 fax; virtuoso_info@ altsys.com.

An easy-to-use image-editing application that should appeal especially to beginners but is suitable for many uses. Includes a large selection of filters and special effects. Has a programmer's API.

Lighthouse Design, 415/570-7736, 415/570-7787 fax; info@lighthouse.com.

WSI-Fonts Professional Volume #1, Jun/Jul 1993

(\$99)

Basic set of 120+ typefaces. Good quality but not up to Adobe standards.

Abstract Software, 206/361-5080, 203/363-8271 fax; info@abstract-soft.com.

ZZVolume 1.4, Aug 1993 ∅ ∅ ﴿ (\$1695)

A conceptual architectural design package sporting an unusual user-interface paradigm that, once learned, works with power and flexibility. Alone on NEXTSTEP but is not up to standards of other platforms. Ares, 33/72/73.06.54, 33/72/73.22. 93 fax; gery@ares.fdn.org. Alembic Systems, 303/799-6223, 303/799-1435 fax; info@alembic.com.

1 VISION 1.60.3, Oct 1993 (Ver. 1.80, \$30 – \$3250)

1 VISIONS's intriguing concept of an extensible publishing environment is buried under a confusing user interface and buggy implementation. Wait for Version 2.

tms International, 31/2155/25792, 31/2155/25792 fax; info@tms.nl. German 49/941/700.344, 49/941/700.516 fax; admin@tms-gmbh.de.

3D Reality 1.2, Jun/Jul 1993 (Ver. 1.4, \$495)

A high-end set of 3-D modules with a great depth of features and good user interface. Advanced features result in a steep learning curve. Stone Design, 505/345-4800, 505/345-3424 fax; info@stone.com.

Tools and Languages

CraftMan (beta), Fall 1992 (Ver. 2.0, \$995)

Solid authoring system, roughly comparable to Macintosh HyperCard, that brings programming tools into the hands of mere mortals. Needs to improve on returning objects' names while scripting, object-class distinctions, and graphics handling. *Xanthus International AB*, 46/8/635. 30.60, 46/8/98.70.67 fax; craftman@xanthus.se.

HyperSense (beta), Aug 1993 (Ver. prbo9, \$299)

An easy-to-use HyperCard lookalike with an accessible scripting language and the capability to convert many HyperCard stacks. Importing stacks is a hit-or-miss proposition in this first release. Lacks support for video, path-based animation, and MIDI.

Thoughtful Software, 303/221-4596, 303/221-0841 fax; info@thoughtful.com.

Graphical front end for the GNU degugger. Useful despite cluttered interface.

Impact Software Publishing, 718/472-0600, 718/472-0160 fax; info@impact.com.

Peripherals

lkegami Monitor CT20D, Nov 1993 Ø Ø Ø Ø (\$2695)

Unbeaten overall monitor quality from a company with a high reputation in broadcast and film. *Ikegami*, 310/534-0050, 310/329-9582 fax.

LaSTLock, Feb/Mar 1993

6 6 6 (\$195)

The only solution for solidly securing a cube to a desktop. Quality and attention to detail are evident in this homegrown product. *Prevail*, 408/629-3972.

Page 28

Windows

Watching

SIMSON L. GARFINKEI

have a confession to make.

Over the past two months, I've been using a 20MHz Intel-based '386 computer running Microsoft Windows 3.1. I've used Microsoft Word, Microsoft Access, Frame Technology's Frame-Maker (both Version 3 and Version 4), and Quicken for Windows. I've used America Online's Windows interface. I've also played a boatload of games.

And I've come to one conclusion: NEXTSTEP developers have some catching up to do.

Take Microsoft Access – certainly not the best database available for Windows, but certainly destined to be an industry leader, thanks to the Microsoft moniker.

After spending an afternoon at the key-board with Access, it became clear that it's a pretty good relational database. Access gives you graphical tools for building a database; and lets you design forms to enter, look up, and update data; build macros; make reports; and even control access to the data on a user-by-user or group-by-group basis. It provides single-user access on a single machine, or multiuser access over a network. Automatically.

If all you want to do is build a flat-file database, Access and Stone Design's DataPhile are comparable products. DataPhile's big advantage is simplicity. With DataPhile, for example, if you want to put a number in a record, you tell DataPhile you want a number. With Access, you have to decide if you are going to be storing a byte, an integer, a long, or a float.

On the other hand, Access has zillions of features. Take forms design. Build a form with Access, and a Forms Wizard lets you build a form that is Single Column or Tabular, a Graph, or a Main Form with attached Subform. You then get to specify whether you want your fields to be With Access, and if the cells on a form should be standard, chiseled, shadowed, boxed, or em-

bossed. With DataPhile, all you can do is chose one of three borders.

But Access doesn't do a very good job building those complex fields. If you aren't careful moving a shadowed field, for example, you'll find the shadow staying behind. That would never happen if shadowed fields were implemented under DataPhile, because the shadow would be drawn by the same Objective-C object that drew the rest of the cell. Indeed, it would be relatively easy for Stone Design to implement shadowed cells and a whole bunch of other Access features – and to do them all right.

It would be easy, but it first has to be done. Until then, shadowed text fields is just another feature that Access has and DataPhile doesn't.

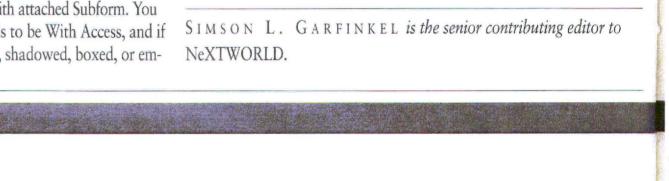
These are the feelings I get from most of the Windows programs that I've tried. They're not as neat or clean as their NEXTSTEP counterparts, but they've usually got many more features and get the job done. They are also way cheaper.

Compounding the problem, many NEXT-STEP developers are not even aware of these disparities. I called up Andrew Stone and asked him if he had played with Access. He said he didn't have a copy. In fact, he was

somewhat surprised that I would sink so low as to actually purchase a '386 box for running Microsoft Windows.

This kind of snobbery is endemic in the NeXT developer community. It's also suicidal. There are a lot of bright, creative people out there writing software for Windows. Some of them have good ideas. It's worthwhile to check them out.

After all, Windows apps are the competition.



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Chinese

Menu

DAN LAVIN

ich parents who pay tuition to ten different private schools don't solve the problem of where to send Junior to kindergarten. Buying vacation packages to both the Caribbean and Hawaii over New Year's leaves you with one too many options.

Hewlett-Packard just bought a piece of Taligent, guaranteeing yet another option but little guidance for its customers. On the surface, the buy makes sense. Given the disproportionately huge revenues that come from hardware sales, it is a small price to pay to place a bet on every possible operating-system combination to make sure that the winning combination in the UNIX lottery is on one of its tickets.

Further, this move gives HP compatibility with IBM customers, providing HP reps with direct access to competition for future equipment upgrades of several large OS/2 customers, according to industry observers.

Large customers tend to make their own technology decisions anyway, so why shouldn't HP be the WalMart of computing?

The danger is that HP will fail to capitalize on each of the technological advantages of its options. Operating systems need integration into complete customer strategies. Sun, for example,

is serious about NEXTSTEP. It is committing a raft of resources to this option and sending clear messages to customers about its vision for the future.

HP is also serious about serving customers, but perhaps it underestimates the trouble required to integrate each of these options into complete software solutions. Most puzzling is HP's technology vision, which shows Taligent as an object layer underneath CDE. This organization puts a clunky procedural front end on Taligent objects.

HP should present one procedural and one object strategy. The procedural strategy can remain as it was before Taligent, with some support and

interconnection to the object side of things.

Meanwhile, HP should use its expensive influence at Taligent to make certain that Taligent objects interoperate completely with NEXTSTEP and all other CORBA-compliant objects. Then, when Taligent finally ships its development tools (or whatever product it's going to ship), its product can be complementary to NEXTSTEP. Sure, HP will offer its customers a panoply of options, but at least those options will all work together within different portions of enterprises that might use different systems.

HP's low-end workstations are now commodity priced, but it must

maintain its edge in high-end machines. A combination of object-oriented tools, such as PDO, combined with a coherent strategy linking together the various UNIX options, just might do the trick.

NeXT, for its part, must nurture this important relationship. HP's stiff reply to the Sun announcement would suggest that HP and NeXT had differing impressions of the "full briefing" that NeXT claimed it provided HP in advance of the announcement.

Both the Sun and HP relationships are treasures to be managed independently, not

played off against one another. NeXT must realize it doesn't have the whip hand. NEXTSTEP is strategic, but both companies could walk away from the NeXT deal and not feel any serious, damaging effects for several years.

Naturally, there are political considerations operating here. But all the companies involved need to keep in mind that the best way to succeed is to serve the customer. Serving up a series of conflicting and confusing messages is hardly the way to achieve that.

DAN LAVIN comments on business issues in NeXT Ink.

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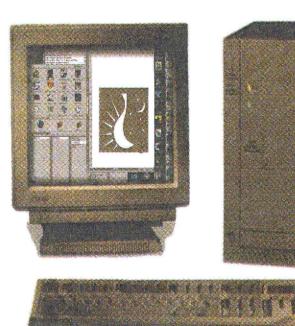
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Focus on the Forest

Application backlog in the CFO's office? WhiteLight/Engineer cuts it down to size

by DAN RUBY

about applying objects to enterprise solutions, then WhiteLight/Engineer may be the ultimate NEXTSTEP application. While other financial-analysis tools are designed to focus on details at the local level, WhiteLight rolls up all of the individual pieces into a network of relationships that model the entire enterprise.

WhiteLight/Engineer is a spreadsheet, a database, a knowledge engine, an object-oriented development environment, and a set of APIs – all in one application wrapper. The results can be tremendous for many organizations, but an overly complex interface detracts from an otherwiseimpressive program. In addition, the program requires a large investment in building models, probably making it more useful to groups within organizations, as opposed to individual analysts.

WhiteLight's great benefit is its versatility in rapid development of custom financial applications. Typical uses might be an operational process like a year-end consolidation, a

forecast like a five-year strategic plan, or an ad hoc analysis of a possible merger or acquisition. Building White-Light models helps the financial analyst understand relationships that are too complex or dynamic for other tools.

WhiteLight is more akin to mainframe modeling environments and fourth-generation languages than it is to personal computer-based spreadsheets. In a traditional spreadsheet, the data and the model are mixed into one grid. The user spends a lot of unproductive time finding and verifying data, futzing with formulas, and customizing reports. In WhiteLight, the model and the data are separate. A report or graph is just a view into the model. The same information can be displayed in an unlimited number of ways without creating redundancies.

Types of users

Unlike a spreadsheet, which can be applied productively by an individual user, WhiteLight is designed as an enterprise-modeling tool. According to WhiteLight Systems, it can be applied as a "top-down, bottom-

FV93 Q I U.S. Dollar WhiteLight USA | Natural | FY93 Q1 \$273,590.97 \$136,845.48 WhiteLight USA U.S. Dollar Nov 92 -1,460 14,990 -1,270 -90 -260 rara(avst) -1,520 +1,320 148,290 1 4 4 44 11,780 33,128 39,720 75,450 Baked good: 87,880 43,530 10,320 12,540 Gross margin 29,960 123,500 8,280 19,380 Netincome 47,680 34,580 41,340 Baked goods Cash from operation 8,700 10,410 12,880 4,600

Unlike a spreadsheet, WhiteLight grids and graphs are views into the model, not the model itself. Result: Data is more easily verified and the model more easily audited.

WhiteLight/Engineer 1.1







This sophisticated modeling environment has the power to create highly complex enterprisewide financial applications, but its interface does little to manage the complexity. It is highly recommended for serious modeling applications, but may be more than is needed for mainstream analysis and reporting requirements.

\$9995 developer version; \$995 user version

WhiteLight Systems, 350 Cambridge Ave. # 200, Palo Alto, CA 94306. 415/321-2183; whitelight@whitelight.com.

up, or middle-out" solution.

Once adopted by an organization, it is useful at many different levels. Systems architects and developers design and build the model. Financial analysts and business managers maintain and extend it. Company executives use it for information retrieval and decision support.

WhiteLight/Engineer is available in a developer version for \$9995 or a user version for \$995. While this represents a heavy outlay for buyers, the cost is insignificant compared with the benefits that come from a better understanding of your business and improved decision making.

I reviewed the product from the standpoint of a departmental manager using a model that was designed and developed by a professional financial analyst. I worked in depth with two models – the WhiteLight Foods demonstration model that the company ships with the software and a prototype model for *NeXT-WORLD* that was built by a White-Light analyst. This process gave me a sense of the depth and sophistication that is possible in a finished application, as well as the process for developing a new model.

The results were impressive. The Foods example models a multinational conglomerate and provides dozens of specific applications and reports, including an income statement, balance sheet, ratio analysis, financing plan, currency adjustments, and much more.

The first iteration of the *NeXT-WORLD* system – built in half a day using our existing spreadsheet model – is a solid foundation, though it is very far from being a production system. Several more iterations by the model developer would be

needed before we could actually put it into use.

Contexts and elements

A WhiteLight model is made up of numerous contexts, or ways of looking at the enterprise, and elements within the contexts. For example, the Foods model uses six contexts – financial, enterprise, product, time, currency, and plan – containing a total of 264 elements.

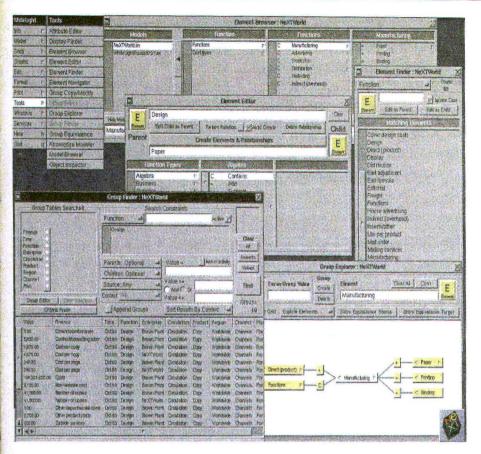
Each element of the model is an object. It might be a financial value like Gross Margin, a time value like Third Quarter, an organizational value like Europe, or any other unit that helps to describe the business. Elements are defined in terms of other elements using a comprehensive set of mathematical functions, formulas, and constants.

To begin building a model, you work in a element browser to define the contexts and elements. Once named, an element editor allows you to write the formulas that relate elements to each other. An element navigator provides a graphical view of the relationships, so you can quickly point and click your way through the network of relationships. There is also an element finder that quickly locates each instance of an element or a group of elements.

Once the elements are defined, you begin to populate the model with data by creating grids and graphs. These will look familiar to spreadsheet users. Grids are built by dragging and dropping element names into a multidimensional grid. Since you can always expand or contract elements and their components, the grids can be displayed in as much or as little detail as you want. You simply click 1994, for example, to display a quarterly view. Click again to see each month.

Depending on the complexity of your grid, the model can contain an astronomical number of data values. These are populated either by user input or a lookup to a database, or are computed from other values. (It is easy to create data-entry grids that highlight the cells to be entered.) In many cases, a particular value will not be of interest. For example, the six-dimensional Foods model contains 570 million possible values, but only 6500 are actually used.

In addition to grids, WhiteLight



WhiteLight provides a profusion of useful tools and views but offers little help in managing the screen real estate. Each panel has its own array of interface controls.

also generates graphical views of data. The program includes a selection of bar-, pie-, and line-graph types. White-Light's API also allows users to link models to more specialized charting programs or their own custom apps.

Interface excess

Unfortunately, WhiteLight does so

much that it doesn't know when to stop. Its interface is such a profusion of pop-up lists, wells, buttons, and sliders that the mind positively boggles. Using it, you immediately find that you have more than a dozen inspectors, finders, explorers, navigators, and browsers open, each one festooned with confusing interface controls.

Several of the dozen or more tools are cleverly designed, and all of them are needed, but there is not enough hierarchy in the organization of the tools. The user needs more of a helping hand in determining which tools and views are the most important.

WhiteLight acknowledges that the interface needs work, though Version 2.0, due this spring with important enhancements in other areas, does not substantially change the interface design. A later 2.1 release is scheduled to include interface improvements.

Any product as complex as WhiteLight is going to need substantial training tools and support services. One of the product's strengths is its excellent documentation, tutorials, and examples. WhiteLight Systems also offers extensive options for user training and development support.

Two other strengths are its performance and robustness. It ran effortlessly and without bugs on both my slab and an Epson GX.

In sum, WhiteLight/Engineer is

an outstanding, though imperfect, product. There's no doubt that this is the kind of product that will bring new users – corporate financial officers – to NEXTSTEP. Many existing NEXTSTEP sites – both large corporations and small start-ups – will also find it tremendously valuable.

Unless it has been adopted as a standard in their company, however, nonfinancial specialists will probably find that WhiteLight is more tool than they need for ad hoc business modeling. Still, even if Mesa is all you'll ever want for looking at the trees, you should still take a look at WhiteLight/Engineer to see what's possible when you use NEXTSTEP to look at the financial forest.

DAN RUBY is NeXTWORLD's editor in chief.

A China Hand for NEXTSTEP

or NEXTSTEP users needing Chinese-character or language support for desktop publishing or general productivity, Jie-Fu Corporation has introduced CHINAware. Unlike NEXTSTEP 3.1J's Kanji support, however, CHI-NAware does not replace the entire operating system with a localized version.

CHINAware lets you enter Chinese characters using several methods, including Cangjie, both ETEN and Daqian phonetic symbols, Simple, Internal Code, and Telegraph Code. A special CInput application will process the characters as you type them in your preferred input method, and the characters can then be dropped into standard NEXT-STEP applications for publishing, e-mailing, and so forth. A separate application, CEdit, is like a Chinesesavvy version of the standard Edit application and is the easiest way to edit Chinese characters on-screen.

CSearch, a third application, is necessary to do text searches on Chinese characters. A Chinese VT100 terminal emulator is also included.

The package comes with the applications on diskettes and the five PostScript typefaces on CD-ROM, along with a very helpful Longman Chinese–English dictionary if you purchase the program for use in Taiwan. (Longman and Jie-Fu are

CHINAware 1.3





A good, well-designed Chinese-language system that sits on top of standard NEXT-STEP and allows Chinese-character input. Includes PostScript fonts and several handy utilities but supports traditional characters only. (Support for simplified characters is coming.)

\$995; \$795 temporary promotional price; \$395 student version

Jie-Fu Corporation, 10F-1, No. 107, Sec. 2, Roosevelt Rd., Taipei, Taiwan, R.O.C. 886/2/369-5121, 886/2/369-5120 fax; tchuang@cube.ep.nctu.edu.tw.

still negotiating for external-distribution rights.)

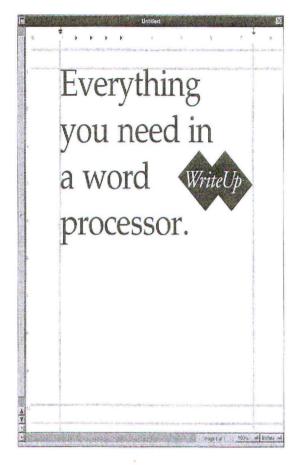
Jie-Fu has also increased CHINAware's usefulness to custom-application developers by adding an API, which lets other apps use the software's Chinese input engine. Several tools and resources are provided for application development under CHINAware as well.

The program works well if you're familiar with Chinese-language input systems, but it's not useful if you're just trying to learn Chinese. It also doesn't support my favorite input method, pinyin phonetic (which is supported under the Chinese version of Macintosh System 7.1). But in all fairness, that isn't an accepted professional method. A more serious omission is the lack of support for simplified characters, but the company promises to include that in a future release. The only other NEXTSTEP Chinese language options require X Windows and are not commercially supported. Be aware that this program is not designed to be usable by anyone on a network, because of its hardware dongle protection system.

At \$995, CHINAware costs three times the price of the Chinese Language Kit for the Apple Macintosh but supplies much more functionality with the bundled applications, superior font offerings, and API. Jie-Fu also sells 30 additional Chinese PostScript typefaces. Another company, Jackson, of Hsin Chu, Taiwan, has a library of 33 Chinese Post-Script typefaces – one of which they recently released under the general public license of the Free Software Foundation as a service to the NEXT-STEP community. Overall, CHINAware is a welcome addition to the globalization of NEXTSTEP.

RICK REYNOLDS worked for Time magazine in Beijing before joining the NEXTSTEP community as a NeXTWORLD contributing editor.

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Microsoft Mouse, Jan 1994

♠ ♠ ♠ ♠ (Bus Mouse, \$125)

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Microsoft Corporation, 206/882-8080, 800/426-9400, 206/936-7329 fax.

NXFax 1.03b, ZyXEL U-1496 modems, Jan 1994

NXFax 1.03b

Our favorite fax modem and fax-driver software. The ZyXEL modem is the best we've seen, and the NXFax software works flawlessly with it. Both are highly recomended. Black & White Software, 802/496-8500, 802/496-5112 fax; nxfax@bandw.com. ZyXEL, 714/693-0808, 714/693-0705 fax.

PowerGuardian and Smart-UPS 400, Sep 1993

(Ver. 1.41, \$149)

Helpful software with the popular Smart-UPS line of uninterruptible power supplies to protect your computer and your data.

BenaTong, 614/276-7859, 614/276-7859 fax; info@BenaTong.com.

American Power Conversion, 401/

RollerMouse Trackball, Win 1992 (\$129)

789-5735, 401/789-3710 fax.

A solid trackball with superior sensitivity and speed. Users should test for ergonomic comfort before buying. *CH Products*, 619/598-2518, 619/598-2524 fax.

Screen Machine II, Sep 1993 (Ver. 1.2, \$1850)

Screen Machine II provides high-quality video capture and video-in-a-window capabilities for NEXT-STEP PCs, bringing back much of the functionality of the NeXTdimension. For now, it is most useful for grabbing single frames or watching television on your screen. When NEXTIME arrives, the Screen Machine may turn out to be the best way to make movies for NEXTSTEP. Fast Electronic U.S., 508/655-3278.

Wacom SD-431D Digitizing Tablet and Pressure Sensitive Stylus, Apr/May 1993 ♠ ♠ ♠ (Ver. SD-421-E, \$1095)

Cordless stylus and built-in support from NEXTSTEP 3.0 make this digi-

tizing tablet a strong alternative to mouse input, especially for graphic applications.

Wacom Technology Corporation, 206/750-8882, 206/750-8924 fax.

Math and Science

CuillaMartin Calculator Set 1.0, Feb/Mar 1993

(\$79)

Basic functionality at an affordable price. Lacking some originality. *CuillaMartin*, 708/223-5164.

EquationBuilder, Feb/Mar 1993 (Ver. 3.1, \$270)

A highly intuitive solution for the thorny problem of typesetting mathematical equations.

Digital Tool Works, 617/742-4057, 617/742-4057 fax; info@dtw.com.

Sound and Music

Presto (beta), Win 1992

Entry-level music program that combines MIDI sequencing with DSP synthesis. Uncluttered layout and inviting drag-and-drop approach to measure editing.

Pinnacle Research, 602/327-8949.

Rhythm King, Jun/Jul 1993 ♦ ♦ (Ver. 1.2, \$99)

March to your own drummer with this digital drum machine. Installation can be tricky.

Ciusa, 612/822-1604, 612/922-4426 fax; ciusa@cup.portal.com.

SoundBursts, Sum 1992 **∅ ∅ ∅** (Ver. 1.1, \$109)

Collections of professionally recorded CD-quality stereo clip sounds for use with all NeXT programs that support sound. Sound quality is excellent. Ciusa, 612/822-1604, 612/922-4426 fax; cup.portal.com.

SoundHouse, Apr/May 1993 ♠ ♠ (Ver. 1.1, \$69)

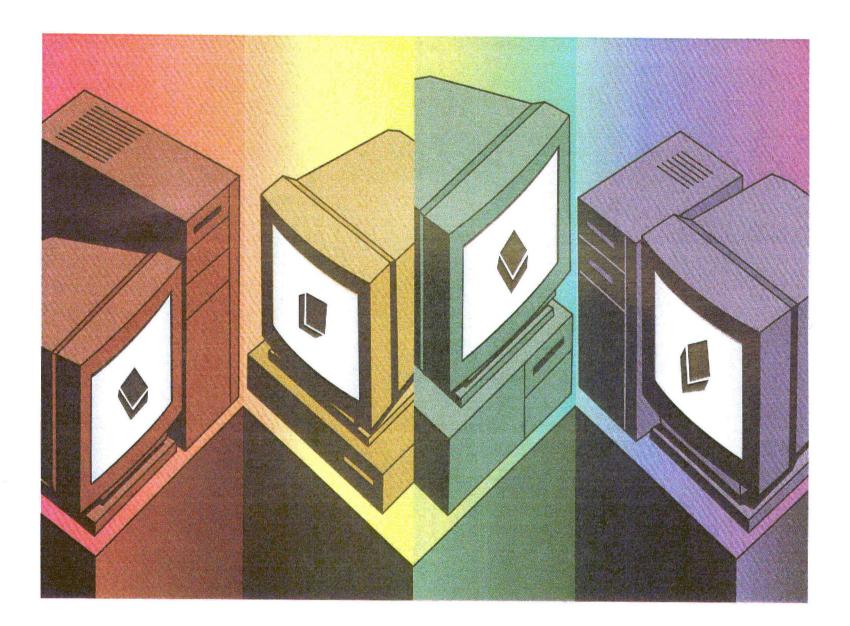
This inexpensive sound recorder is great for simple editing but lacks the mixing and special effects found in the higher-priced products.

Ciusa, 612/822-1604, 612/822-1604 fax; ciusa@cup.portal.com.

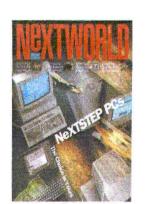
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All Good Data Needs A Great Safety Net

For mission-critical data, nothing beats the new rev of this Best of Breed backup app

by SETH T. ROSS

alk about mission critical. Few computer operations fit that description better than the consistent backup of key user and system files. Need we repeat the litany of hardware, human, and heavenly failures that can wipe out your data, from cracker attack to power failures? If your computer data is important, you have a backup system in place.

A backup system requires both hardware and software. The preferred hardware for backing up the large file systems that are common at NEXTSTEP sites is either a Digital Audio Tape (DAT) drive or an 8mm Exabyte mechanism, both of which can rapidly back up gigabytes of data. The preferred software to manage the backup process in the NEXTSTEP environment is Safety-Net from Systemix Software.

We first reviewed a prerelease version of SafetyNet in the Fall 1992 issue. We gave it four cubes in beta and, upon review, we gave the shipping product a Best of Breed award in May 1993. After extensive back-up sessions working with SafetyNet 2.1, we are happy to report that not

only has the application lived up to our original expectations, it's exceeded them.

Catalogs, profiles, and archives

SafetyNet provides a simple pointand-click interface to the process of storing files on tape media. It keeps an on-line database, or "catalog," of the files you've written to tape, allowing you to browse tapes as easily as hard drives. The catalog stores the names of backup files as well as vital information about their status and location. In SafetyNet lingo, the combination of off-line tape storage and an on-line catalog is called an "archive."

SafetyNet gives you complete control over the scope of backups. You can select any combination of files and directories for archiving. An Inspector allows you to choose files according to ownership (if you want to back up, say, Tom and Jane's files, but not Dick's), and by date (if you want only files modified since January 1, 1994, or your last backup). Commonly used backup selections can be saved as backup profiles that can be either launched from the Workspace Manager or scheduled for

automatic execution at predefined times (such as every Tuesday and Thursday at 5 a.m.).

The product comes in two flavors: Safety-Net Professional and Safety-Net Personal. The professional version can back up any mounted UNIX file system, including those that are NFS mounted

over a network, making it the choice for network administrators. The personal version can only back up locally mounted disks but costs considerably less.

Setting up your net

You start by creating an archive to keep track of the files you've backed up and the tapes on which they're backed up. The application prompts you to choose a name for the archive and a volume label for the tape. Once your archive is set up, you create a profile that determines which files and directories get backed up into it. SafetyNet presents you with a browser that lets you select and deselect the appropriate files and directories. By default, it lists all mounted file systems.

Once you select files and date, time, user, and group options in the Inspector panel, you're ready to roll. Choose the Backup command from the Tools menu, pop in your tape, and SafetyNet handles the rest.

Restoring files is even easier. SafetyNet provides an Archive Browser that lists all the files and directories you've backed up. Select the files you wish to restore and use the Inspector panel to indicate to what location you want the files restored. SafetyNet prompts you to insert the proper tape and, seconds later, your files are back.

We tested SafetyNet with an ArchiveST 2000 DAT drive from Maynard Electronics. We backed up over 3GB of data onto three DAT tapes (each one can hold nearly 1.2GB). It took 45 minutes to back up our stock 330MB hard drives. The most impressive thing about SafetyNet is how quickly it restores data. The app took less than one minute to retrieve an arbitrarily selected 256KB file.

Safety in the Proof of the Control o

SafetyNet in the middle of a full backup. The Backup Monitor (top middle) provides progress reports. The Profile window (bottom) allows you to select files and directories. As shown in the Inspector (top right), this backup includes all files, regardless of ownership or modification date.

SafetyNet 2.1 This new release of the Best of Breed back-

up application is flexible, reliable, and easy to use. It allows you to rapidly find and restore archived files and directories. Recommended without reservation, particularly for network administrators.

\$399 professional version; \$149 personal version

Systemix Software, P.O. Box 2457, Columbia, MD 21045. 410/290-8813, 800/509-0039, 410/290-8934 fax; info@systemix.com.

Why not use dump?

Wizened system administrators know that the UNIX utilities dump and restore function much the same as SafetyNet and are included free with NEXTSTEP's UNIX. They also know that these utilities are basically brain-dead and have cryptic command-line interfaces. While dump can do incremental backups, it only works with entire file systems and has no provision for partial backups of, for example, just home directories. While restore can restore a single file from a backup tape, it must read every file on the tape that precedes the one you need, a time-consuming process.

SafetyNet is much easier to use. In the time it takes to absorb the backup section of the NeXT system-administration manual, SafetyNet can take care of your local disks. But the biggest advantage of SafetyNet over the UNIX utilities is its speed and easy access to archived files, which are important factors when you're up against the panic that results from losing critical data.

Nearly flawless

SaftetyNet isn't perfect. While it's easy to use, we'd like to see a Full Backup button that allows first-time users to skip the steps of creating an archive and a profile. The menu structure could stand some reorganization: All of the key commands are nested under the Tools menu. The ability to browse through multiple archives would be a welcome enhancement.

Given that any product is subject to improvement, we recommend SafetyNet without reservation, particularly for network administrators who are responsible for large volumes of data. The cost of the app is pennies on the dollar compared to the prospect of losing critical corporate or personal data.

SETH T. ROSS is the publisher of San Francisco-based Albion Books and a NeXTWORLD contributing editor.

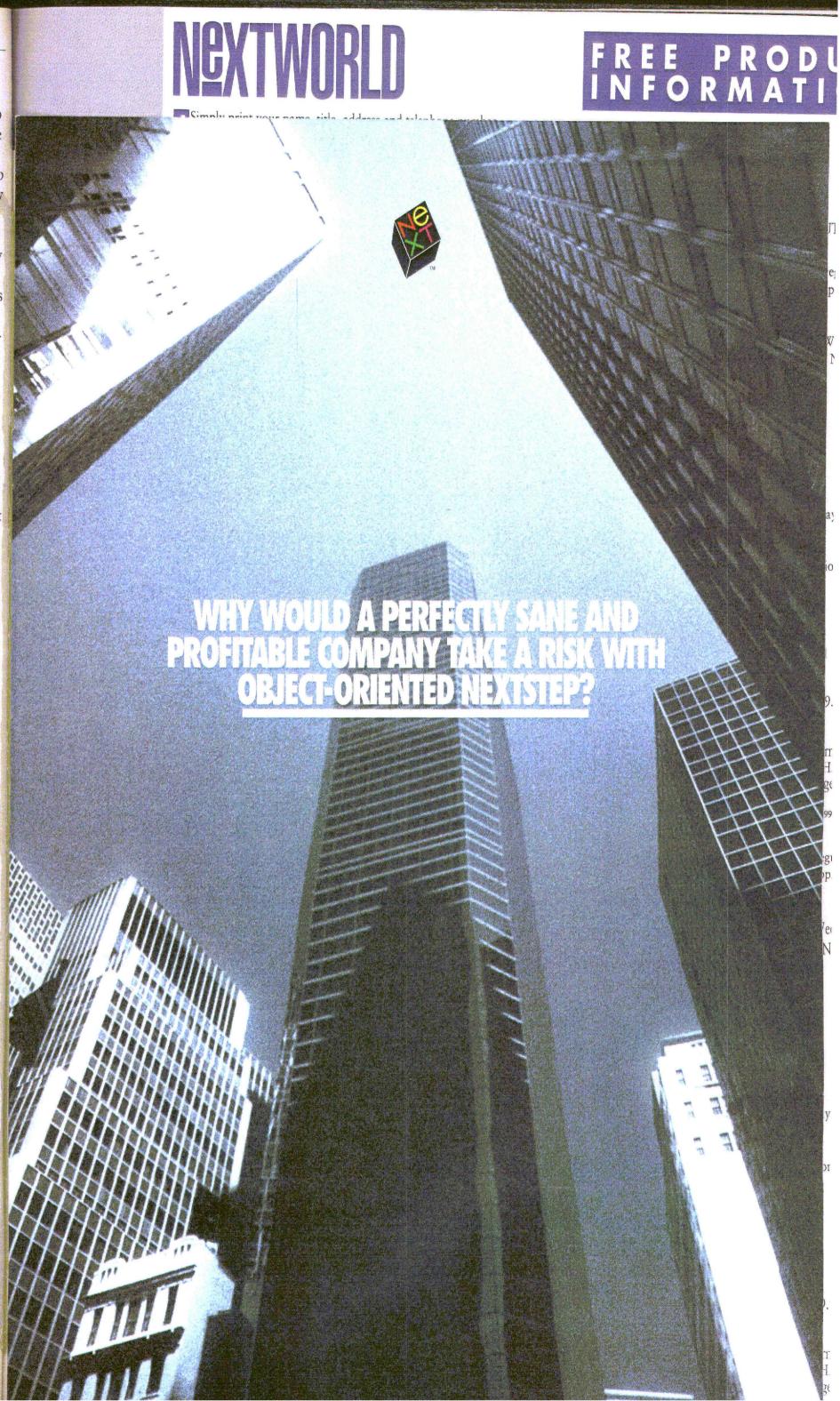
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To certain companies, choosing an object-oriented system years before it's available from the industry giants seems like a risk.

To others, though, passing up a compelling competitive advantage presents a far more dangerous risk. So they use NEXTSTEP™ for Intel®

Processors—the first and only NEXTSTEP conserves your most valuable resource. operating system and development environment optimized for objects from top to bottom.

program functions. So there's no danger of breaking an application

when all you want to do is update a single function. This structure allows you to evolve your custom applications to quickly exploit new business opportunities, since it lets you leverage past efforts by

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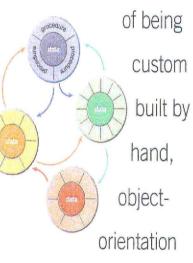
It's really the software equivalent of the Industrial Revolution.

THE OBJECT IS FASTE

Just as modern factories allowed products to be built from prefabricated component parts instead

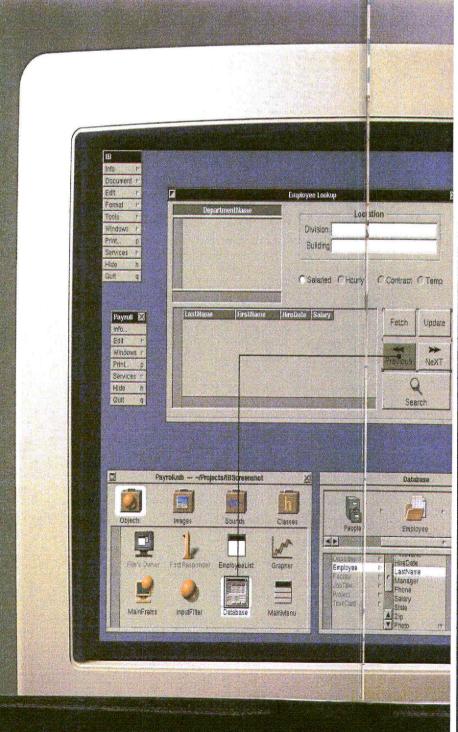


Object-oriented NEXTSTEPapplications work like most organizations do. Each object has a function, and can message another for information or processing help.



lets developers build complex applications by using prebuilt software components. The result mission-critical custom applications that can be developed up to ten times faster.

Every NEXTSTEP application is comprised of independent and easily accessible objects that encapsulate both the code and data for individual



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application in NEXTSTEP, much of your work is e's no already finished. Because NEXTSTEP comes with ication *ipdate*

a library of objects representing over 80% of the functionality that is common to most programs — including objects for text editing, printing, faxing, sound, 3D graphics, color selection and more.

Our Interface Builder™ gives you much more than mere prototyping tools. Unlike

an ordinary "screen painter," it lets you construct complex enterprise applications graphically,

manipulating real objects and not just images. You can even add new objects which are automatically

recognized by the system. NEXTSTEP also comes with object kits such as the data-intensive applications without worrying about how your database is NEXTSTEP provides a full set of objects for features common to most programs,

Database Kit[™], which lets you assemble structured. Simply connect your custom application to an "adapter" object (Oracle

and Sybase adapters are included) and it just works. NEXTSTEP, however, is only the tip of the object

from printing to faxing.

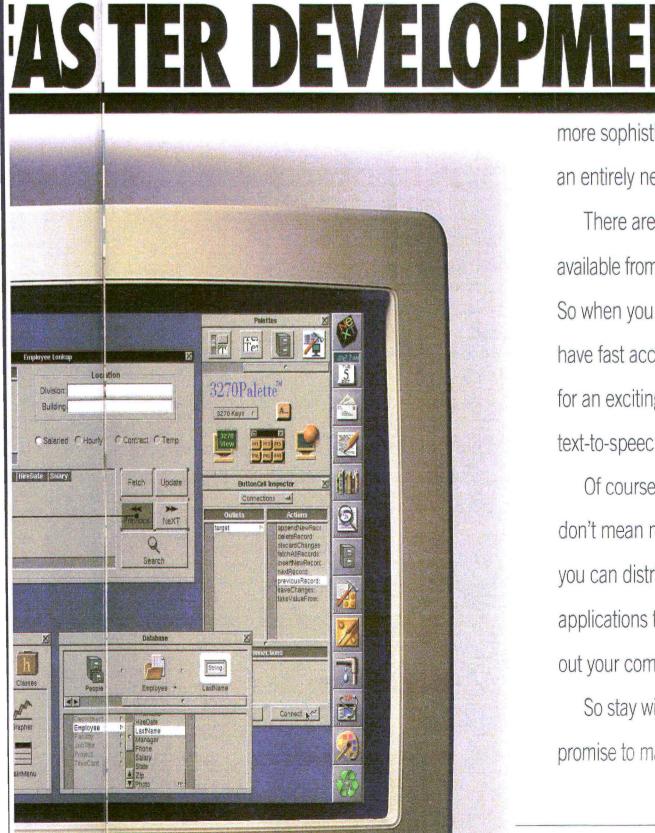
iceberg. Because it offers so many rich opportunities for new,

more sophisticated software, it's already spawned an entirely new industry: ObjectWare™

There are now over 1,400 NEXTSTEP objects available from more than a hundred object vendors. So when you write NEXTSTEP applications, you have fast access to pre-written, rock-solid objects for an exciting world of advanced functions, from text-to-speech to data feed and bar codes.

don't mean much unless **OBJECTIVE** you can distribute your applications through-We provide objects and I tools for building advanced client/server applications, and out your company.

So stay with us for just a few pages more. We promise to make this fast.



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shrinkwrapped box, you get one unified environment, including

operating system, development

TO BUILD A CUSTOM CLIENT/SERVER SYSTEM, YOU would normally pick an operating system and then go scavenging for the development tools to make it work. NEXTSTEP offers a new approach. In one

Object • Enterprise combines NEXTSTEP with Hewlett-Packard's 9000 product family, allowing you to develop and deploy custom object-oriented client/server applications across the entire enterprise, from desktop to data center.

tools, integrated applications, database access, full networking and more. It's everything you need to build advanced

client/server systems.

NEXTSTEP lets you deploy the benefits of object technology throughout your organization, it doesn't make you sacrifice even one of your standards.

Built upon a solid, robust foundation of UNIX®,

NEXTSTEP integrates the desktop completely, allowing X, Windows, MS-DOS, IBM

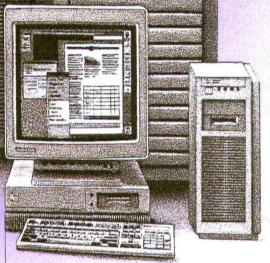
3270 and AS/400 applications to co-exist, sharing data and services with

NEXTSTEP applications. That way your legacy apps maintain their value and all your Windows,

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THE OBJECT IS SEAM!



About the only thing it doesn't come with is risk: While it raises development

standards by an order of magnitude, NEXTSTEP

runs on standard Intel 486 and Pentium® machines from such leading names as Dell, Compaq, NEC, Hewlett-Packard, Digital, NCR and Epson. (It's available

In the graphical world of NEXTSTEP, a user can access information across standard networks without having to worry about the complexities of getting there.

pre-loaded on many models.) And even though

networking and file standards remain intact.

NEXTSTEP Release 3.2 even comes complete with SoftPC from Insignia*, which contains the code Microsoft® uses to emulate Windows applications on Windows NT. So, powered by a 486 or Pentium chip, NEXTSTEP can run shrinkwrapped Windows

apps at near-native speed.

NEXTSTEP also gives you full support for TCP/IP, NFS, GOSIP, POSIX and Novell networking standards, with Macintosh® and MS-DOS file system compatibility. Its greatest power, though, is

the power it delivers to your company's users.

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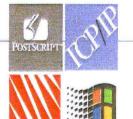
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Because the system provides a set of objects common to all applications, the graphical interface remains simple and consistent from application to application. Your custom software integrates perfectly with shrinkwrapped

NEXTSTEP productivity applications, as well as with all the popular DOS and Windows applications including full cut-and-paste capabilities.

So user acceptance goes up, and the need for costly user training goes down.

NEXTSTEP not only offers the most advanced





NEXTSTEP supports just about every standard in the civilized world.

between applications, between users, even across networks. By tapping the power of PDO (Portable Distributed Objects), you can actually develop objects on a NEXTSTEP client and

deploy them in completely different systems, so servers can utilize the same power.

And while NEXTSTEP can deliver all of the advances of a revolutionary technology, it can also offer the day-to-day dependability of a tried-andtrue system. Because that's exactly what it is.

is polished, perfected and proven in the

most demanding companies all around

the world. (A comparable system from the giants of

at least two to three years away.)

and deployment. At least you've seen it in theory.

the industry—or anyone else—remains

So now you've seen how NEXTSTEP

brings dramatic gains to both development

EAMLESS DEPLOYMEN

Already in its third release, NEXTSTEP

computing environment, it comes complete with sophisticated bundled applications that can bring even greater productivity to the organization.

into the system, giving all connected users

NeXTmail™ is built *Objects are a far bigger idea than any one computer.* PDO can send messages across applications, across offices or across a whole planet so information can stay up to date

across the entire enterprise.

access to drag-and-drop multimedia mail (it's fully

compatible with UNIX mail). The complete Websters® NEXTSTEP for Intel Processors runs on industry-standard 486- and Pentium-based machines from the

dictionary and thesaurus can be consulted at any time, from any application. And spell-checking • Data General is a system object that can be



COMPAQ







NEC



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summoned by any application that requests it.

NEXTSTEP objects, in fact, can send messages

If you can stay with us for one more page, we'd be delighted to show you how it works in real life.

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A growing number of companies have seen the gains to be made with a complete object-oriented system of software. Rather than buy a vaporous promise for the future, they've chosen real objects now: with NEXTSTEP. And practically overnight, they've begun to reap the benefits.



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At McCaw Cellular, NEXTSTEP was employed to

Even the press is impressed. NEXTSTEP has been universally praised as the only real object system.

develop a new

customer service system that manages all interaction with McCaw customers, distributors and dealers — a system

that will ultimately be deployed to about 4,000 users.

With less code required, they estimate their first application was completed in about one-third the time it would have taken using OSF MOTIF or Windows. And as they build a library of airtight objects, they expect future applications to take even less time.

At Swiss Bank Corporation, one of the world's leading options trading companies, NEXTSTEP has helped build a product line of consistent and easily maintained financial services applications. The sheer speed of NEXTSTEP development allows them to enter new markets with innovative financial products—and stay well ahead of the competition.

Chrysler Financial evaluated tools like Windows and PowerBuilder,™ but they chose NEXTSTEP. They found that there was nothing comparable for application development or database interface. Plus, NEXTSTEP lets their users run custom and shrinkwrapped apps in one consistent way.

The retail portion of their business is mission-critical,

obients Users say it sizzles on ILLIAM MORRIS A86 machines and is the more completed by users and already established by users and already establ best OOP Platform. Computerworld, June 1993 organial algebrasis and stablished by the same along the stablished by the same along the same and the same a VARS and it is easier to develop applications for NEXTS TEP than FOT NT. Byle Magazine, August 1993 FIRST NATIONAL BANK SWISS BANK CORPOR CHRYSLER FINANCIAL

NEXTSTEP is probably the most

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NATIONS BANC-CRT le most on the PHIBRO ENERGY as a platform for building and distributing applications, NEXTSTEP brings more to the party than any other operating system.

so they're using NEXTSTEP software to create a system for processing automobile loans and leases at 100 financial centers spanning North America. By first creating generic business and financial objects, they expect to streamline future projects by sub-classing these into other objects all of which can easily be updated across the organization.

PanCanadian Petroleum Limited was 90% down the road to standardizing on Windows with PowerBuilder in creating their client/server development environment when they discovered NEXTSTEP and made the switch.

Within two months, they were actually farther along in

their project, thanks to the objectoriented power of NEXTSTEP.

Now they believe they have

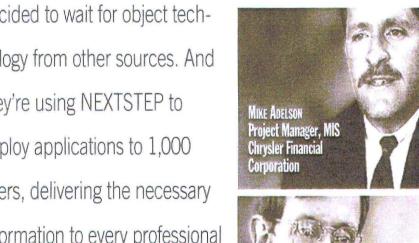
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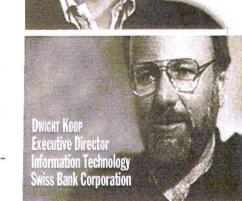
gained a two-to three-year lead over competitors who have

decided to wait for object technology from other sources. And they're using NEXTSTEP to deploy applications to 1,000 users, delivering the necessary information to every professional practice in their business of oil and gas exploration.

As you can see, NEXTSTEP object-oriented software is now paying dividends in companies from completely different industries. Which proves that in the

world of business, there is one thing that every company can use: a competitive advantage.





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Chief Information Officer McCaw Cellular

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We've shown you how object-oriented NEXTSTEP is helping many companies develop and deploy custom applications faster and better.

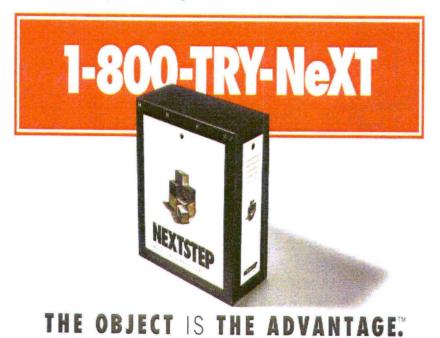
Now we invite you to get a better understanding of how NEXTSTEP can help streamline the most important company in the world: yours.

Just call us at 1-800-TRY-NeXT. We can send you hardware requirement sheets, white papers or technical evaluations, as well as full NEXTSTEP specifications.

GET A COMPLETELY OBJECTIVE POINT OF VIEW.

We can also tell you about NEXTSTEP seminars that may be scheduled for your area, and give you the name of a nearby NEXTSTEP representative or reseller.

Our goal is to give you the insight you need to build a powerful competitive advantage. And that, no doubt, is the most important object of all.



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Defying Gravity The Making of Newton

Photography by Doug Menuez Text by Markos Kounalakis

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\$29.95

Beyond Words Publishing, 13950 N.W. Pumpkin Ridge Rd., Hillsboro, OR 97124. 503/647-5109, 800/284-9673, 503/647-5114 fax.

OK, we have an ulterior motive in reviewing this book. This excellent photo documentary is the extraordinary result of special access granted to respected photographer Doug Menuez to document the behind-thescenes process of producing Apple's Newton. Menuez was also granted the same special access to NeXT Computer in the early days and produced, according to those who have seen it, an outstanding body of work for publication in Life. But at the last minute, an unnamed photo critic/ CEO at NeXT quashed the project. Seeing the Newton book only serves to remind us of the similar work that is missing from our NeXT bookshelf. DL

TimeFlies 1.8

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\$45

Mouthing Flowers, 152 20th Ave. #1, Seattle, WA 98122. 206/325-7870; timebugs@ mouthers.wa.com.

The true test of a good alarm clock is this: Does it stay out of your way when you don't need it yet remain persistent enough that you don't ignore it when the time comes to remind you of something? TimeFlies passes both tests with insistent, programmable reminders. Alarms are automatically saved between sessions, giving you no excuse to miss a regularly scheduled meeting. Time-Flies even goes one better than an alarm clock by letting you use any sound on your computer and record your own from within the program. The alarm clock is the standout, but TimeFlies also features a clock (it tells you the time in a pleasant female voice at each quarter hour) and a built-in stopwatch. LS

Reviews Desk

We at the Reviews Desk issue a special plea to the developers returning from the East Coast soirce – share code, learn from each other, and work together to develop small applications. Let's use these smaller apps as part of a campaign to demonstrate how the NEXTSTEP application environment can integrate add-on functionality. That's the best way to welcome new members to our community from the Solaris world and provide a helping hand as they figure out how to participate in the OpenStep future.

This month's gang includes PAUL CURTHOYS (PC), SIMSON L. GARFINKEL (SLG), LEE SHERMAN (LS), AND MYSELF, DAN LAVIN (DL).

Programming Under Mach

by Joseph Boykin, David Kirschen, Alan Langerman, and Susan LoVerso

\$42.95

Addison-Wesley Publishing Company, 1 Jacob Way, Reading, MA 01867. 617/944-3700.

You won't find a single mention of NeXT or NEXTSTEP in this new book on Mach, but you will find a lot of detail on writing multithreaded applications, communicating between tasks with the Mach messaging system, virtual memory, and Mach exception handling. You'll also learn how Mach got its name. Some parts of this book are largely advertisements for OSF/1, which is not surprising, considering that the authors are affiliated with the Open Systems Foundation. Although the lack of NeXT orientation is a liability for this book in the NeXT community, it nevertheless is a thorough discussion of Mach operating-system fundamentals, something which the NEXTSTEP community sorely needs. **SLG**

FSPreferences 1.0

\$59

FreemanSoft, 4604 Thendara Way, Raleigh, NC 27612. 919/783-7033; info@Freeman-Soft.com.

FSPreferences provides a set of additions to the standard Preferences application that allows you to set alarms, automatically launch applications, associate sounds with system operations, and edit the defaults database. Although you get several modules, the limited functionality

and awkwardness of their design make this package less valuable than it first appears. FSSoundPanel works with only a limited number of system events, fewer than those available with Microsoft Windows or a utility such as Click Change for the Macintosh. A standard analog alarm clock has more functionality than FSAlarmClock, and using the FSCurrentDefaults panel to edit the defaults database is actually less effi-

cient than using Edit or a UNIX shell. FSAutoLaunch is reminiscent of the utility LaunchPad but has even less functionality. **LS**

Monitor Saver

000

\$29

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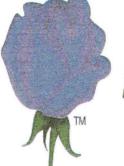
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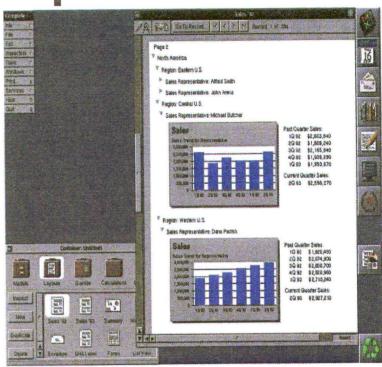
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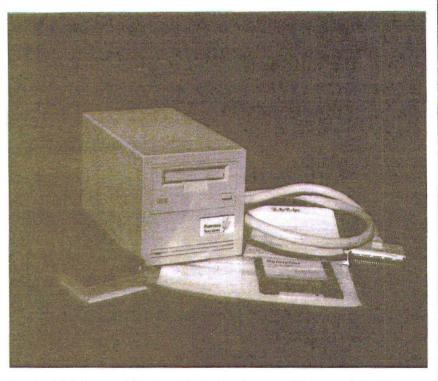
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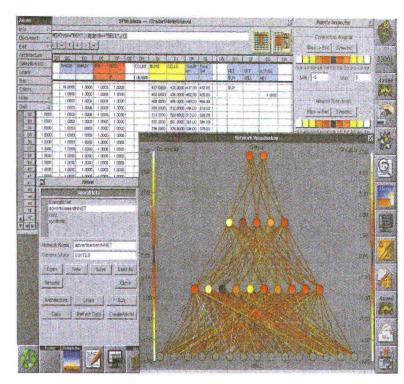
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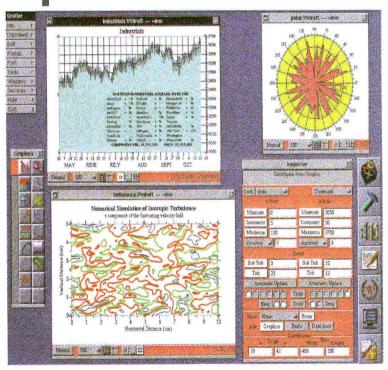


AXONE.app is a brand new NeXTSTEP application that lets you create, test, and run neural networks in a flash. Axone accesses your data model directly on your running MESA spreadsheet. Once satisfied with network performance, output your network as a Mesa Addln, or as a C-Function. All calculations necessary during network training are performed by Axone_server, a platform independent program available for all NeXTSTEP platforms, as well as SUN, HP, and others. Special introductory Price: 495 US\$.

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GraphBuilder



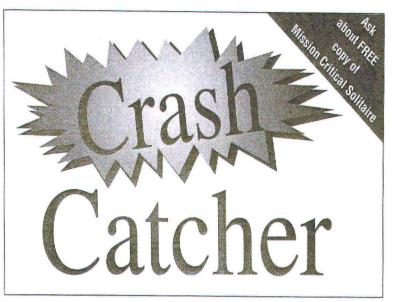
GraphBuilderTM is the definitive application for graphing. It delivers professional interactive, animated, and programmable graphing for end users and developers. Graphs and figures are effortlessly constructed without programming. Combined with the VVI Graph Object Library and API it is the most powerful, reliable, and optimized graphing front end available. GraphBuilder features a complete and accessible arsenal of user interface, programming, and data importing options. VVI provides complete support and integration services.

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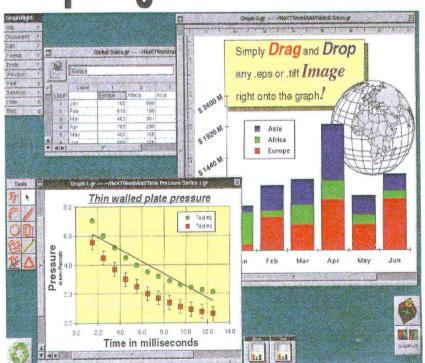
WHITELIGHT DEVELOPMENT SYSTEMS

CrashCatcher is a non-intrusive runtime utility for Objective-C debugging. It generates comprehensive crash and non-fatal NXEception reports for software under development. It continues to watch for errors in beta-test and production software. It automatically sends a report to the user's console or to an e-mail address. Without CrashCatcher, end-users report only a few of the crashes they experience because they often cannot reproduce or describe the specific events leading up to the crash.

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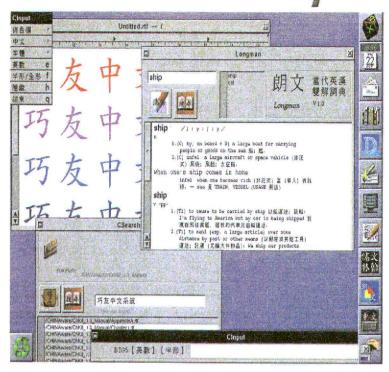
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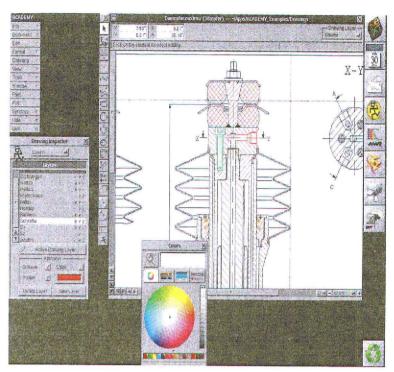
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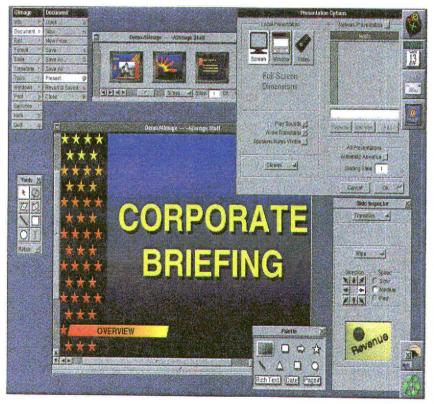


ACADEMYTM is a 2D CAD program which through its open and flexible structure, extends across many business fields, from mechanical and electrical engineering to architecture. The graphics engine, already in use on other hardware platforms, was combined with NEXTSTEP to make ACADEMYTM powerful, yet easy and logical to use. You won't find cryptic commands, endless parameter lists and time wasting dialogs or complex menu structures. However, the well designed usage concept still allows for precise numerical inputs, calculation of geometry and construction data as well as exact placement. Promotional price = \$1195.00

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NeXTWORLD magazine Classifieds is a monthly feature. Rates effective February/March Issue. Per-line rates \$15.00. Thirty-six characters equal one line (count each letter, space and punctuation mark as a character). Four-line minimum, seven lines per inch. For column inch rates, please call or write for complete rate card information. Check or money order (or certified check) must accompany copy and be received six days prior to close date. All ads accepted at the discretion of the publisher. NeXTWORLD magazine 501 Second St., San Francisco, CA 94107 415/978-3182.

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A Magical

Connection?

JOHN PERRY BARLOW

magine that after living for a long time in a small town, you find everyone else who lives there has started speaking a language you never heard before. They start dressing differently, thinking unimaginable thoughts, and generally losing a familiar affect.

I'm not talking about a third iteration of *Invasion of the Body Snatchers*. I'm describing what seems to have happened to the NeXT community over the last two years, at least from my parochial perspective. Each passing issue of *NeXTWORLD* seems more impenetrable. It is filled with references to CORBA (which I gather not to be a form of herpetology), inheritance (which

has nothing to do with probate), and dynamic messaging exchange (most certainly not love letters).

In other words, IS culture has taken over (much as I predicted it would when I first heard the dreary phrase "mission-critical custom app"), and it uses the sort of hermetic lingo I'd expect from people who've actually read IBM service manuals cover to cover.

This may be a gratuitously insulting way of defending the possibly ignorant

proposal I'm about to make for opening up the object culture of NEXT-STEP to another kind of foreigner.

I had an experience the other day that made me think differently about the future of soft objects. I went down to General Magic, a little Silicon Valley start-up with ambitions as huge as its backers: Apple, Motorola, Sony, and AT&T. General Magic is mainly a swell sandbox for Bill Atkinson and Andy Hertzfeld, the playful wizards who gave us, among other things, the Macintosh interface and HyperCard.

General Magic is also a major NeXT refugee camp. Fully ten percent of its staff are former NeXT employees, and even more of the remainder helped Steve Jobs create the Macintosh. The software they are creating will, I think, make objects as friendly and ubiquitous as Frisbees. They are developing

two products aimed primarily, though not exclusively, at Personal Digital Assistants (PDAs).

The products are Magic Cap, a PDA interface as obvious as your living room, and TeleScript, a platform-independent object-based language that I believe is destined to become the PostScript of telecom. TeleScript's so-called independent "agents" seem so viral that I predict we will need special agents to protect us from bands of digital hooligans roaming cyberspace.

What does this have to do with NeXT? Little, apparently, given that Magic Cap currently supports only the Mac and Windows. Nevertheless,

the NEXTSTEP and General Magic software ecologies have more architectural commonality with each other than they do with any other existing environment. They contain very similar species that simply don't yet speak the same language.

Here is where I leap in over my technical depth. I don't really know C++ from an exceptionally mediocre report-card grade, but it does seem to me that it might be fairly easy to create an interpretive sub-

strate upon which both kinds of objects could flourish and interact.

Furthermore, the NeXT community has a programming paradigm that ought to adapt readily to the environments that General Magic is creating. And finally, a lot of the people in these two companies have personal relationships that could speed integration.

If NeXT is to succeed, it needs not only to provide a seamless continuity between the desktop and the central office's mainframe, but also extend into the coat pockets in which the businesspeople of the future will keep most of their immediate information. Neither company has the resources to make that happen yet. It will be up to you IS guys to do that.

JOHN PERRY BARLOW performs his magic here each month.

Answer

NEXTSTEP

Ars Magna

NEXT GAMES

by SCOTT KIM

An anagram is a word or phrase whose letters rearrange exactly into another word or phrase. For instance, text pens is an anagram of NEXTSTEP, coordinate is an anagram of decoration, and anagrams is itself an anagram of ars magna (Latin for "great art").

The shareware application ArsMagna by Jeff Adams (aka James Daff) helps you search for anagrams. Type in a word or phrase, and Ars Magna searches through its dictionary for every possible combination of words that matches your request. A typical short phrase yields thousands of anagrams. Most are gibberish, of course, but occasionally you find a jewel.

CONTEST

Unscramble these anagrams of words related to the NEXTSTEP environment. Most are names of well-known pieces of NEXTSTEP software, but a few are aspects of the NeXT system or culture. Write your answers in the blanks provided; the number of blanks shows the number of words in the answer. Two-word answers are sometimes single compound words with internal capitalization, like *NoteBook*. Use the hints to check your answers.

Up to ten lucky winners will receive a NeXTWORLD T-shirt. Address entries to Puzzle Editor, NeXTWORLD, 501 Second St., San Francisco, CA 94107. Or fax us at 415/978-3196. Entries must be received by March 15, 1994.

The answers to "Zoological Notebook" in the January issue are: 3 – Albert, 4 – Fannie, 5 – Diane, 7 – Igor, 8 – Bernice, 9 – Edwin, 11 – Helen, 12 – George, and 13 – Charles.

Ana	าหลา		
Sall Land	AP and		
	33.54		

1. Text pens

Same
 Snag a ram

4. Virus, too

5. Aim, drag

6. Up a step

7. MaskTaster

8. Ttroppicss

9. PowerSack

10. Civil Peers

11. Free V. Wille

12. Ideal Path

13. Expert mails

14. Effort can

15. Nasty feet

16. Teach it, Mama

17. Garble, twist, die

18. A bundle rectifier

19. I fight your sex

Hint

Can't fight the system

Tabula rasa

Title song

Draw me out

Show business

Making book

A man, a plan

WYSIWYG

Everything in its place

Tell it like it is

Open and shut case

World's record

Improve your image

Model citizen

Back support

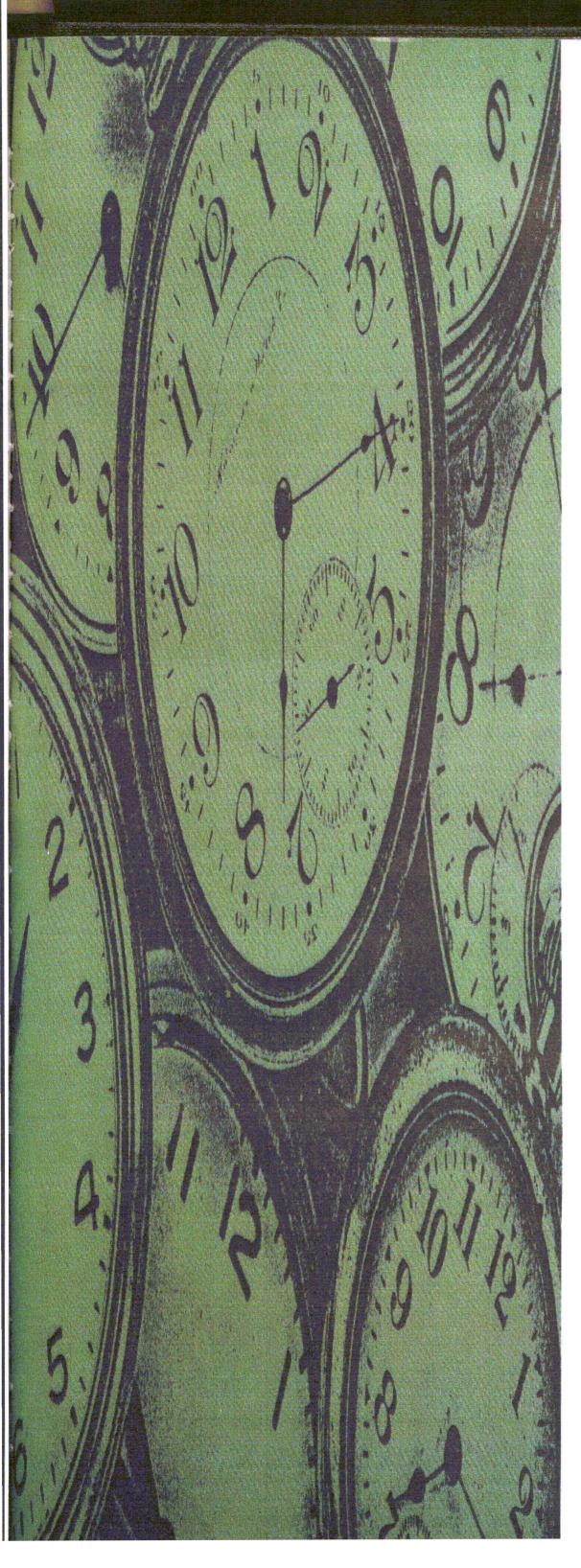
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Look vouvordo o

Look upwords angel

Who's got the button?

White knight



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[&]quot;The CW Guide to Servers: Buyers' Scorecard," Computerworld, March 22, 1993.

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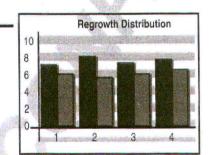
MAAS Growth S

Cell Regeneration Trial Report Sample NS-93

Regrowth Cross Tabulation					
Triall	Α	В	C	D	
1	5		4	1	
2	5		5		
3	4	1	3	2	
4	5		4	1	

Full Regrowth Partial Regeneration Cell Acceptance Cell Rejection

	Depth	(mm)	"Selfand	1 1	
Trial	Start	End	Δ	Days	$ \overline{\Delta} - \Delta $
1	7.16	6.16	1.00	27.4	0.24
2	8.23	5.94	2.29	35.4	1.05
3	7.52	6.28	1.24	32.2	0.00
4	6.96	6.50	0.46	19.3	0.78
	40		△ 1.24	Avg. D	ev. 0.50



- Notes -This trial was extremely sucessful in showing the regenerative potential of Serum NS-93. We recommend going to full human study as soon as

Regrowth Codes

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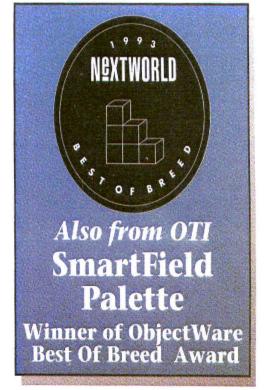
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